CS Exit Ethiopia

Questions & Worked Answers

Computer Science Exit Examination

305 complete questions and 1 source variants

1 selected course | 18 November 2026

Selected courses

01. Web Programming

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Course contents

Each course begins on a new page. PDF bookmarks provide question, study-note section and revision-topic navigation.

Web Programming 3

Reading the answers

Every question includes its answer, explanation, choice-by-choice contrasts and available evidence. Primary note proof quotes the study notes. Related reading and module passages are labelled separately; a module reference is not presented as primary note proof.

Web Programming

Questions & Worked Answers

305 questions + 1 source variants

Question 1 | Q00008

Which symbol is used to write a single line comment in JavaScript?

A. <?

B. <!---------->

C. //

D. &&

Hint

Check exact language syntax, declaration rules and execution context before reasoning about the result.

Answer C: //

A single-line JavaScript comment starts with two forward slashes (p.46); text following it on that line is ignored. Evidence: PDF p. 46.

Why each choice is right or wrong

A - Incorrect: PHP-style opening delimiter, not the stated JS comment form.

B - Incorrect: HTML-style comment delimiters do not match the JS rule.

C - Correct: Exactly the double forward slash specified on p.46.

D - Incorrect: Logical conjunction syntax is not the double-slash comment delimiter.

Primary note proof

Study-note section WEB15

> // comments end at line end; /* */ span a block.

Study-note section WEB23

> Use <?php ...

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 46 | lines 4-10

> 4.3 JavaScript Comments
> As with HTML and CSS, it is possible to write comments into a JavaScript code
> that will be ignored by the browser, and exist to provide instructions to fellow

developers on how the code works. There are two types of JavaScript comments
- A single line comment written after a double forward slash (//)
// I am a single line comment
- A multiline comment is written between the strings (/* */)

Question sources

MOE Computer Science Exit Exam · 2016 · Question 8

Question 2 | Q00018

Which attribute of INPUT tag defines the number of characters that can be displayed in a text box without scrolling?

A. SIZE

B. MAXLENGTH

C. VALUE

D. TYPE

Hint

Separate the control role, displayed content, submitted value and form destination.

Answer A: SIZE controls approximate visible text-input width.

WEB09 distinguishes size from maxlength: size describes the approximate visible width of a text input, while maxlength limits how much text can be entered. That matches the stem's focus on characters displayed without scrolling. VALUE provides initial content and TYPE selects the control kind; neither is the width-setting attribute requested here.

Why each choice is right or wrong

A - Correct: SIZE controls approximate visible width for a text input, matching the display-without-scrolling description.

B - Incorrect: MAXLENGTH limits entered text length rather than determining how wide the input appears.

C - Incorrect: VALUE supplies the control's content, not its visible character-width setting.

D - Incorrect: TYPE selects the input-control kind rather than its approximate visible width.

Primary note proof

Study-note section WEB09

For a text input, size indicates approximate visible width, whereas maxlength limits entered text length.

Study-note section WEB-S02

For a text input, the value attribute supplies its initial text value; it does not specify the control's width.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 22 | lines 2-9

1. Text inputs create using the <input> tag, an input control can take many forms
using the type attribute. Possible values for type attribute
- Text - most common used for text inputs
- Password - for password fields
- Checkbox
- Radio
Other attributes for <input> tag
- Name, value, size, maxlength

Question sources

MOE Computer Science Exit Exam · 2016 · Question 18

Question 3 | Q00020

Which method can be used to divide a browser into smaller sub windows so that each sub window displaying a different HTML document?

A. Using paragraphs

B. Using frames

C. Using images

D. Using tables

Hint

Use the element or attribute meaning and document structure, rather than appearance or a similar-looking name.

Answer B: Using frames

Frames display independent windows/subwindows and each frame may contain a different web page (p.20). This matches dividing the browser into document views. Evidence: PDF p. 20, PDF p. 20, PDF p. 17.

Why each choice is right or wrong

A - Incorrect: Paragraphs structure text (p.15), not separate document views.

B - Correct: Frames explicitly provide the required subwindows.

C - Incorrect: Images embed visual content, not independent HTML documents.

D - Incorrect: Tables structure rows and columns, not separate document views.

Primary note proof

Study-note section WEB10

Legacy frameset/frame divides a window into separate documents; frameset replaced body in old frameset documents.

Study-note section WEB06

<p> marks paragraphs;
 is a line break and <hr> a thematic break.

Study-note section WEB08

<table> contains rows <tr>, header cells <th> and data cells <td>; a td is not the table itself.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 20 | lines 4-10

2.2.9 HTML Frames
HTML frames allows us to present documents in multiple views, which may be independent windows or sub-windows. Multiple views offer designers a way to keep certain information visible, while other views are scrolled or replaced.
An HTML document that describes frame layout has a different markup than HTML document without frames. A standard document has one HEAD section and one BODY. A frameset document has a HEAD and a FRAMESET in place of BODY.

Web Programming module | PDF page 20 | lines 24-28

2.2.9.2 Internal Frame
The Frame tag define the particular area within an HTML file where another HTML web page can be displayed. A <frame> tag is used with in a <frameset>, and it divides a webpage into multiple sections or frames, and each frame can contain different web pages.

Web Programming module | PDF page 17 | lines 23-29

2.2.7 HTML Table
A very common task in html is structuring tabular data. HTML has a number of elements and attributes just for this purpose. This section will explain how to create tables using the different elements provided by html.
A table is a structured data made up of rows and columns. To create table in html use the fowling elements table, tr, th, td, and captions
tr stands for table row, th stands for table header and td stands for table data

Question sources

MOE Computer Science Exit Exam · 2016 · Question 20

Question 4 | Q00037

Which statement is false about potential benefits of well-designed external style sheets? Treat benefits as possibilities, not guarantees.

A. Style sheets can support accessible presentation

B. Style sheets can create a consistent appearance

C. Style sheets can make HTML pages easier to maintain

D. Style sheets cannot reduce repeated markup or transferred file size

Hint

Identify which elements a rule targets and distinguish selector syntax from declaration syntax.

Answer D: Style sheets cannot reduce repeated markup or transferred file size

External CSS lets several pages reuse presentation rules, making visual changes easier to maintain and helping consistency. Reuse and caching can reduce repeated markup and transfers, although savings depend on the implementation. Accessible presentation is also possible, but CSS alone does not establish accessibility. The false statement is the absolute denial of any size or transfer savings; the other choices describe potential benefits rather than universal promises.

Why each choice is right or wrong

A - Incorrect: Accessible presentation can be supported, though semantic markup and usable controls are still needed.

B - Incorrect: Reused rules can give pages a consistent appearance.

C - Incorrect: Central rules reduce repeated presentation edits across pages.

D - Correct: This absolute denial is false: reuse and caching can reduce repeated markup and transfers.

Primary note proof

Study-note section WEB11

> External CSS promotes reuse, consistent design and caching; it does not guarantee that every page becomes smaller or accessible.

Study-note section WEB07

> Give controls programmatic labels, clear link text and keyboard access; visual styling alone does not establish accessibility.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 28 | lines 27-31

> 3. External style sheets
> An external style sheet is used when the style is applied to many pages. With an
> external style sheet, you can change the look of an entire website by changing one file

(the style sheet). Each page should be linked to the style sheet using the <link> tag inside the head section.

Question sources

MOE Computer Science Exit Exam · 2016 · Question 37

Question 5 | Q00062

What will be the out of the following JavaScript statement? Math.abs(-9)

A. 9

B. -9

C. 1

D. 0

Hint

Track the value and type at each operation, applying the stated conversion, indexing or mathematical rule.

Answer A: 9

WEB18 explicitly evaluates Math.abs(-9) as 9. Absolute value removes the negative sign from a negative numeric argument and leaves its magnitude, so the result is neither the original negative number nor a Boolean-like one or zero. This is an expression result; no rounding or text conversion is involved.

Why each choice is right or wrong

A - Correct: The absolute value of negative nine is its nonnegative magnitude, nine.

B - Incorrect: Negative nine is the input; absolute value does not preserve its negative sign.

C - Incorrect: Math.abs returns numeric magnitude rather than a Boolean-like value of one.

D - Incorrect: The input is nonzero, so its absolute value is not zero.

Primary note proof

Study-note section WEB-S08

For finite numeric arguments, Math.abs(x) gives the nonnegative magnitude, Math.floor(x) gives the greatest integer no larger than x, and Math.sqrt(x) gives the nonnegative square root for nonnegative x.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 84 | lines 17-21

5.16 PHP Mathematical Functions
The math functions can handle values within the range of integer and float types.The PHP math functions are part of the PHP core. No installation is required to use these functions.
Here are some PHP math functions, you can get the whole list from the internet
abs - Absolute value

Web Programming module | PDF page 85 | lines 6-11

Example
<?php
echo abs(-4.2); // 4.2 (double/float)
echo abs(5); // 5 (integer)
echo abs(-5); // 5 (integer)
?>

Question sources

MOE Computer Science Exit Exam · 2016 · Question 62

Question 6 | Q00064

In the legacy browser expression document.bgColor, what is bgColor?

A. bgColor is a method

B. bgColor is the document object

C. bgColor is a property

D. bgColor is an event handler

Hint

Distinguish the browser object or dialog role from the kind of response it collects.

Answer C: bgColor is a property

The expression uses the lowercase document object name and the exact camelCase member bgColor. In this legacy API, bgColor is a property representing background color, rather than a method call or event handler. Asking specifically about the member avoids confusing it with window.document, which is itself a property. Current code normally changes the background through document.body.style.backgroundColor rather than this legacy interface.

Why each choice is right or wrong

A - Incorrect: No function is invoked or named by this legacy color member.

B - Incorrect: document is the object on which the member is accessed, not the bgColor value.

C - Correct: The legacy member stores a background-color setting.

D - Incorrect: The member is a color property, not an event callback.

Primary note proof

Study-note section WEB22

> document.bgColor is a legacy property; Document.bgcolor has wrong object/case.

Study-note section WEB22

> In a normal browser page, window exposes the browsing context and document is its document property.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 53 | lines 2-3

> Example
> element.style.backgroundColor = “red”;

Web Programming module | PDF page 56 | lines 17-25

> All global JavaScript objects, functions, and variables automatically become members of the window object.
> Global variables are properties of the window object
> Global functions are methods of the window object.
> Even the document object (of the HTML DOM) is a property of the window object:
> window.document.getElementById("header");
> is the same as:
> document.getElementById("header");

Question sources

MOE Computer Science Exit Exam · 2016 · Question 64

Question 7 | Q00069

Look at the following valid PHP array:
$list = array("outside" => "red", "inside" => "brown", "top" => "black", "under" => "blue");
Which exact string key indexes the value "black"?

A. brown

B. outside

C. under

D. top

Hint

Identify the role requested and compare it with the definitions and constraints in the cited passages.

Answer D: top

PHP associative arrays map explicit keys to values. In each pair, the text before the contiguous => operator is the key and the text after it is the value. The pair containing black therefore uses the key top. String-key case matters, so the lowercase spelling is retained in the corrected choices. The other offered strings either identify another entry or are themselves a value rather than the requested key.

Why each choice is right or wrong

A - Incorrect: brown is the value associated with inside, not the key of black.

B - Incorrect: outside identifies red.

C - Incorrect: under identifies blue.

D - Correct: top is the exact key paired with black.

Primary note proof

Study-note section WEB26

> PHP arrays map integer/string keys to values.

Study-note section WEB26

> Associative syntax uses a contiguous => operator: ["top"=>"black"] stores black under key"top".

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 69 | lines 4-22

> Syntax
> An array can be created using the array() language construct. It takes any number
> of comma-separated key => value pairs as arguments.
> array(
> key => value,
> key2 => value2,
> key3 => value3,
> ...
>)
> E.g.
> <?php
> $array1 = array("Item 1", "Item 2", "Item 3", "Item 4");
> $array2 = array('item1' => "Item 1",
> 'item2' => "Item 2",
> 'item3' => "Item 3",
> 'item4' => "Item 4");
> ?>
> The use of => is similar to the regular = assignment operator, except that you are
> assigning a value to an index and not to a variable.

Question sources

MOE Computer Science Exit Exam · 2016 · Question 69

Question 8 | Q00075

Which statement is false about modern JavaScript running in a browser sandbox?

A. The language cannot support sophisticated applications

B. Scripts can access selected client devices through permission-based APIs

C. Scripts have restricted access to arbitrary client files and hardware

D. Script source can be supplied as text and executed by the browser

Hint

Check exact language syntax, declaration rules and execution context before reasoning about the result.

Answer A: The language cannot support sophisticated applications

Browser JavaScript supports sophisticated applications; its sandbox is a restriction on access to resources, not proof of an inherently weak language. Selected file or device access can be exposed through permission-based APIs, while arbitrary hardware access remains restricted. JavaScript source can be included in pages or loaded from a script file. Thus the language-capability claim is false, while the qualified environment and source-delivery claims are compatible.

Why each choice is right or wrong

A - Correct: The note explicitly allows sophisticated applications, so this denial is false.

B - Incorrect: Permission-based APIs allow selected device access.

C - Incorrect: Sandbox restrictions limit arbitrary resource access.

D - Incorrect: Script inclusion supplies source for browser execution.

Primary note proof

Study-note section WEB01

> Browser scripts are sandboxed, but may access selected files/devices through permission-based APIs.

Study-note section WEB01

> They are not inherently limited to trivial programs, nor can they freely access arbitrary client hardware.

Study-note section WEB15

> Use <script src="app.js"></script> for an external .js file; script content has no HTML closing-tag syntax inside its JavaScript source.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 44 | lines 3-7

> 4.1 Introduction to JavaScript
> JavaScript (JS) is a lightweight, interpreted or compiled programming language. It is a single threaded, dynamic language, supporting object oriented, functional programming styles. Do not confuse JavaScript with the Java Programming language. The two-programming language have very different syntax, semantics, and use.

Web Programming module | PDF page 44 | lines 21-28

> We can use JavaScript in coordination with Application programming interfaces (APIs). APIs provide us extra information. They are ready made code building blocks that are used to simplify programming in JavaScript. There are two types of APIs
> - Third party API → are not built into the browser. We have to grab the code from the web. Examples: Twitter API, Google maps API etc.
> - Browser API → are built into the browser. Examples DOM (Document object model) which is covered later in this chapter, Geolocation API, Canvas and WebGL, Audio and Video elements

Question sources

MOE Computer Science Exit Exam · 2016 · Question 75

Question 9 | Q00155

Which one of the following is false?

A. A web browser is a software that runs on a server

B. A user agent renders resources for a user to view

C. A website is a collection of resources in various forms

D. A web page is the basic unit of information storage on the www

Hint

Identify the role requested and compare it with the definitions and constraints in the cited passages.

Answer A: A web browser is a software that runs on a server

The module places web pages on servers and says web clients view them using a browser (p.9). Thus A reverses the browser role in the ordinary client/server description. Web pages hold web information (p.8); B and C describe the compatible rendering/resource roles, though they are not verbatim definitions. Evidence: PDF p. 9, PDF p. 8, PDF p. 9.

Why each choice is right or wrong

A - Correct: Client-side browser role contradicts this server-role claim in the teaching model.

B - Incorrect: A browser views pages, consistent with rendering resources.

C - Incorrect: Website files are hosted together (p.9), consistent with this collection description.

D - Incorrect: Page 8 explicitly says web information is stored in Web pages.

Primary note proof

Study-note section WEB01

> A browser/user agent requests resources and renders HTML/CSS, then runs permitted JavaScript.

Study-note section WEB01

> A web/HTTP server receives requests and returns representations, sometimes invoking application code.

Study-note section WEB02

> A website groups resources; a page is one document/resource.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 9 | lines 2-4

> • Web pages are files stored on computers called Web servers.
> • Computers reading the Web pages are called Web clients.
> • Web clients view the pages with a program called a Web browser.

Web Programming module | PDF page 8 | lines 29-34

> • The World Wide Web (WWW) is most often called the Web.
> • The Web is a network of computers all over the world.
> • All the computers in the Web can communicate with each other.
> • All the computers use a communication standard called HTTP.
> How does the WWW work?
> • Web information is stored in documents called Web pages.

Web Programming module | PDF page 9 | lines 13-21

> Web hosting is the place where all the files of your website live. Web hosting is a service that allows organizations and individuals to post a website or a web page onto the Internet. A web host, or web hosting service provider, is a business that provides the technologies and services needed for the website or webpage to be viewed in the Internet. Websites are hosted, or stored, on special computers called servers. When Internet users want to view your website, all they need to do is type your website address or domain (the domain name for the site has to be registered) into their browser. Their computer will then connect to your server and your webpages will be delivered to them through the browser.

Question sources

Addis Ababa University mock exam · Question 57

Question 10 | Q00157

Which one of the following is the correct syntax for document type declaration in HTML5?

A. </doctype html>

B. <!doctype! Html>

C. <doctype! Html>

D. <!doctype html>

Hint

Use the element or attribute meaning and document structure, rather than appearance or a similar-looking name.

Answer D: <!doctype html>

The module examples begin <!DOCTYPE html> (p.21 and p.30). D has that declaration form, with lowercase keyword; the other choices change its punctuation. Evidence: PDF p. 21, PDF p. 30.

Why each choice is right or wrong

A - Incorrect: A closing-tag slash is not the demonstrated declaration.

B - Incorrect: Extra exclamation after doctype is absent from the example.

C - Incorrect: Missing exclamation immediately after <.

D - Correct: Matches the module declaration structure.

Primary note proof

Study-note section WEB06

> <!DOCTYPE html> selects modern standards mode; <html> is the document root, <head> holds metadata, and <body> contains document content.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 21 | lines 2-3

```
<!DOCTYPE html>
<html>
```

Web Programming module | PDF page 30 | lines 21-22

```
<!DOCTYPE html>
<html lang="en">
```

Question sources

Addis Ababa University mock exam · Question 59

Computer Science Exit Exam · Sene 2016 · Question 16-1

Computer Science Exit Exam practice collection · Question 38

Question 11 | Q00158

In HTML, how do we create a link to another site?

A. click here

B. click here

C. click here

D. <a "http://www.somedomain.com">click here

Hint

Use the element or attribute meaning and document structure, rather than appearance or a similar-looking name.

Answer A: click here

Page 14 requires an anchor with an href containing the web address. A supplies that attribute and encloses link text between a and /a. Evidence: PDF p. 14.

Why each choice is right or wrong

A - Correct: Exactly the anchor/href pattern on p.14.

B - Incorrect: url does not substitute for the stated href attribute.

C - Incorrect: link does not substitute for href.

D - Incorrect: A bare quoted URL omits the required href attribute.

Primary note proof

Study-note section WEB07

> Use Read for a link; href is the destination, not url/link.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 14 | lines 5-9

> In HTML, a link is created by wrapping the text or other content inside an <a> tag (anchor tag) and using the href attribute, also known as Hypertext reference, or target that contains the web address.
> Here is an example of a link to the google website
> Google.

Question sources

Addis Ababa University mock exam · Question 60

Question 12 | Q00159

Which one of the following form attribute is used to assign the server-side script file that processes the form data?

A. Action

B. Autocomplete

C. Method

D. Target

Hint

Separate the control role, displayed content, submitted value and form destination.

Answer A: Action

The form attribute action points to the backend script processing collected data. Method instead specifies upload method; target controls the result window.

Why each choice is right or wrong

A - Correct: Backend processing script is precisely action.

B - Incorrect: Autocomplete is not assigned the processing-script role.

C - Incorrect: Method determines the submission method, not script filename.

D - Incorrect: Target determines window/frame for the result.

Primary note proof

Study-note section WEB09

> A form’s action identifies its processing URL, method its submission method, and enctype its encoding.

Study-note section WEB-S02

> A form’s target identifies the window or frame in which the submitted result is displayed.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 21 | lines 23-31

> Form attributes:
> - action → Backend script ready to process the data collected
> - method → method used to upload Data. The most frequently used
> - target → Specify the target window or frame where the result of the script will be displayed. It takes values like _blank, _self, _parent etc.
> - enctype → tells how the browser encodes data. Possible values
> 1. application/x-www-form-urlencoded → most common and used from simple scenarios
> 2. mutlipart/form-data → used to upload binary data

Question sources

Addis Ababa University mock exam · Question 61

Computer Science Exit Exam · Sene 2016 · Question 1-2

Computer Science Exit Exam · Sene 2016 · Question 31-4

Computer Science Exit Exam practice collection · Question 39

Question 13 | Q00160

What does this JavaScript print in an ordinary browser page?

```
<script>
let x = 4 + "4";
document.write(x);
</script>
```

A. 44

B. 8

C. 4

D. The code contains an error

Hint

Track the value and type at each operation, applying the stated conversion, indexing or mathematical rule.

Answer A: 44

The addition expression is complete and ends with a semicolon. Because one operand is a string, + performs concatenation here: the numeric operand contributes its text and the result is the string 44. document.write then emits those two digits.

Why each choice is right or wrong

A - Correct: The string operand makes the two digit representations concatenate.

B - Incorrect: Numeric addition would require numeric operands rather than the given string.

C - Incorrect: The right operand contributes another digit to the output.

D - Incorrect: The expression is syntactically valid.

Primary note proof

Study-note section WEB16

> + can concatenate when a string is involved; arithmetic / converts ordinary numeric strings.

Study-note section WEB22

> document.write is a method/function property; writing after document load can replace the document.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 47 | lines 21-28

- Number → represents integers and floating points. There are many operations we can perform on a number multiplication *, division /, addition +, subtraction - and so on
- String → a string in JavaScript must be surrounded by quotes. We have three different quotes
1. Single quotes --- ‘single’
2. Double quotes --- ‘double’
3. Backticks -- `hello`. In a standard US keyboard, you can find the

Web Programming module | PDF page 48 | lines 23-33

4.5.3 Data Type Conversion
Type conversations are a very common occurrence in JavaScript. Operators and functions converts the values given to them to the right type. Mathematical operations convert value to numbers.
- String conversion → we can use String(value) function to convert a value to string
- Numeric Conversion → happens automatically in mathematical operations and expression. We can use the Number(value) function to explicitly convert a value to a number:
let str = "123";
let num = Number(str);

Question sources

Addis Ababa University mock exam · Question 62

Question 14 | Q00161

What does the following valid PHP code output?

```
<?php
$color = "maroon";
$var = $color[2];
echo "$var";
?>
```

A. a

B. Error

C. var

D. r

Hint

Trace the bindings and operations in order; preserve the exact string characters and distinguish returned values from emitted output.

Answer D: r

PHP string offsets start at zero. The characters of maroon at offsets zero, one and two are m, a and r, so the selected character is r. The variable is interpolated by the double-quoted echo string and no extra spacing is added.

Why each choice is right or wrong

A - Incorrect: a is at offset one.

B - Incorrect: The PHP delimiter and string access are valid.

C - Incorrect: Interpolation emits the value of $var, not its name.

D - Correct: r occupies offset two of maroon.

Primary note proof

Study-note section WEB24

> String offsets start at zero: "maroon"[2] is r when the surrounding PHP is valid.

Study-note section WEB24

> Double-quoted strings interpolate variables and escapes such as \n; single quotes normally preserve dollar names literally.

Study-note section WEB23

> Use <?php ...

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 63 | lines 27-33

> 5.4 Data Types and Variables in PHP
> PHP is a very loosely typed language. This means that variables do not have to be declared before they are used, and that PHP always converts variables to the type required by their context when they are accessed. Variables can store data of different types, and different data types can do different things. PHP supports the following data types: String, Integer, Float (floating point numbers - also called double), Boolean, Array, Object, NULL and Resource

Web Programming module | PDF page 70 | lines 2-8

> We can also create arrays by adding the index of the item in between the square brackets. This will enable us to add items in unorderly fashion
> <?php
> $sample[0] = "sample 1";
> $sample[1] = "sample 2";

```
$sample[2] = "sample 3";
$sample[3] = "sample 4";
```

Question sources

Addis Ababa University mock exam · Question 63

Question 15 | Q00162

In PHP, which function initiates a session?

A. start()

B. s_start()

C. session_start()

D. session_str()

Hint

Follow the identifier and server-side state through the stated lifecycle or access check; distinguish client-controlled claims from server decisions.

Answer C: session_start()

The Starting a PHP Session example explicitly calls session_start() before storing information (p.76). Evidence: PDF p. 76.

Why each choice is right or wrong

A - Incorrect: Not the session initializer named by the module.

B - Incorrect: Not the documented name.

C - Correct: Exact documented initializer.

D - Incorrect: Not the documented name.

Primary note proof

Study-note section WEB29

session_start() starts/resumes PHP session handling and makes $_SESSION available.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 76 | lines 6-16

Starting a PHP Session
Before you can store user information in your PHP session, you must first start up the session.
<?php session_start(); ?>
<html>

<body>.....
</body>
</html>
The code above will register the user's session with the
server, allow you to start saving user information, and assign a UID for that user's session.

Question sources

Addis Ababa University mock exam · Question 64

Question 16 | Q00163

Which single option gives the complete selection of the listed PHP superglobals?

A. $_GET

B. $_POST

C. $_SERVER

D. All of the above

Hint

Identify the data source or security responsibility precisely, and check whether a combined source or a different control could also qualify.

Answer D: All of the above

The names $_GET, $_POST and $_SERVER are all PHP superglobals, representing query values, supported form POST data and request/environment details respectively. The question asks for the complete selection in one option, so All of the above is the best response. Each individual array is genuinely a superglobal, but selecting just one would omit the other two valid entries.

Why each choice is right or wrong

A - Incorrect: True individually, but incomplete because POST and SERVER are also superglobals.

B - Incorrect: True individually, but incomplete because GET and SERVER are also superglobals.

C - Incorrect: True individually, but incomplete because GET and POST are also superglobals.

D - Correct: This aggregate includes all three valid superglobals.

Primary note proof

Study-note section WEB27

$_GET contains query parameters; $_POST contains supported form POST data; $_FILES upload metadata; $_SERVER request/environment details; $_COOKIE cookie values; $_SESSION session data after startup.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 62 | lines 12-26

PHP provides a large number of predefined variables to any script which it runs.
PHP provides an additional set of predefined arrays containing variables from the web server the environment, and user input. These new arrays are called superglobals –
All the following variables are automatically available in every scope.
- $GLOBALS → Contains a reference to every variable which is currently available within the global scope of the script. The keys of this array are the names of the global variables.
- $_SERVER → This is an array containing information such as headers, paths, and script locations. The entries in this array are created by the web server. There is no guarantee that every web server will provide any of these. See next section for a complete list of all the SERVER variables.
- $_GET → An associative array of variables passed to the current script via the HTTP GET method.
- $_POST → An associative array of variables passed to the current script via the HTTP POST method.

Question sources

Addis Ababa University mock exam · Question 65

Question 17 | Q00265

Which of the following is the correct syntax to link an external style sheet in the HTML file?

A. <link rel="stylesheet" src="style.css" />

B. <link rel="stylesheet" href="style.css" />

C. <style rel="stylesheet" src="style.css" />

D. <style rel="stylesheet" link="style.css" />

Hint

Identify which elements a rule targets and distinguish selector syntax from declaration syntax.

Answer B: <link rel="stylesheet" href="style.css" />

The external CSS example uses <link rel="stylesheet" href="style.css"> (p.29). B matches the element, relationship and URL attribute. Evidence: PDF p. 29, PDF p. 28.

Why each choice is right or wrong

A - Incorrect: src is not the demonstrated stylesheet URL attribute.

B - Correct: Matches the complete link/rel/href pattern.

C - Incorrect: style is used for embedded rules, and src is wrong here.

D - Incorrect: style with link does not implement the module external-link syntax.

Primary note proof

Study-note section WEB11

> An external sheet uses <link rel="stylesheet" href="styles.css"> in head; an internal sheet uses style; an inline declaration uses an element's style attribute.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 29 | lines 2-6

> E.g.
> <link rel="stylesheet" href="style.css">
> The rel attributes names the relationship of the linked document to the current document. The href attribute specifies the URL of the linked document. The URL can be relative or absolute

Web Programming module | PDF page 28 | lines 12-14

> 2. Embedded stylesheet
> This type of stylesheet should be used when a single document has a unique style. You define internal styles in the head section by using the <style> tag.

Question sources

Mock exam 4 · Question 67

Question 18 | Q00266

Which of the following is used for concatenation in PHP?

A. *(Asterisk)

B. . (dot)

C. append()

D. + (plus)

Hint

Identify the role requested and compare it with the definitions and constraints in the cited passages.

Answer B: . (dot)

PHP examples concatenate labels, variables and HTML strings with dot, for example echo "name:".$name."
" (p.72). Evidence: PDF p. 72, PDF p. 64.

Why each choice is right or wrong

A - Incorrect: Asterisk is arithmetic, not the joining operator in the example.

B - Correct: Dot joins the strings and variables in the PHP example.

C - Incorrect: No append() string operation is established.

D - Incorrect: Plus performs numeric addition in the p.64 example, not the demonstrated string joining.

Primary note proof

Study-note section WEB24

> Dot concatenates; + is arithmetic.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 72 | lines 18-22

```
Example:
function info($name,$age,$salary){
echo “name:”.$name.”<br>”;
echo “age:”.$age.”<br>”;
echo “salary:”.$salary.”<br>”; }
```

Web Programming module | PDF page 64 | lines 33-36

```
$first=6;
$second=5;
$result=$first+$second;
Echo $result;
```

Question sources

Mock exam 4 · Question 68

Question 19 | Q00268

Which one of the following is not used to generate dynamic web pages?

A. JSP

B. PHP

C. CSS

D. ASP.NET

Hint

Identify the role requested and compare it with the definitions and constraints in the cited passages.

Answer C: CSS controls presentation rather than generating server-side pages.

WEB01 assigns CSS presentation and identifies PHP, JSP/Java, and ASP.NET applications as generating server responses. In this role distinction, CSS is the exclusion: it styles a representation rather than executing the server page-generation logic. CSS can affect displayed appearance, but that does not make it a server-side dynamic-page generator like the other offered technologies.

Why each choice is right or wrong

A - Incorrect: JSP/Java applications are identified in WEB01 as server-side response generators.

B - Incorrect: PHP applications can generate server responses and access databases, fitting dynamic-page generation.

C - Correct: CSS supplies presentation rules rather than the server logic that generates dynamic page representations.

D - Incorrect: ASP.NET applications are identified as server-side response generators, so they are not the exclusion.

Primary note proof

Study-note section WEB01

> HTML supplies structure/meaning; CSS controls presentation; JavaScript supplies programmable interactivity.

Study-note section WEB01

> PHP, Python, JSP/Java and ASP.NET applications generate server responses and access databases; C# is commonly used with ASP.NET.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 26 | lines 4-10

> In the previous chapter we have seen how to structure a web page using HTML.
> Now it is time to add presentation to our sites, to do that we will be using a technology
> called CSS. CSS (Cascading Style Sheets) is the code that styles web content. Using
> CSS you can apply styles to make web pages look exactly how you want. This works
> because CSS is connected to the DOM(Document Object Model). CSS is not a
> programming language. It's not a markup language either. CSS is a style sheet
> language. CSS is what you use to selectively style HTML elements.

Web Programming module | PDF page 60 | lines 4-10

> PHP is a server-side scripting language, which can be embedded in HTML or used as
> a standalone binary (although the former use is much more common). PHP stands for
> Hypertext Preprocessor. The product was originally named Personal Home Page Tools,
> and many people still think that is what the acronym stands for. But as it expanded in
> scope, a new and more appropriate name was selected by community vote. PHP is the
> language that you use to make the server generate dynamic output-output that is
> potentially different each time a browser re-quests a page.

Question sources

Mock exam 4 · Question 70

Question 20 | Q00314

In PHP MySQLi, after mysqli_init() and mysqli_ssl_set(...) have configured the required TLS and certificate-verification settings, which function initiates the database connection?

A. mysqli_real_connect(...)

B. pdo_connect_ssl()

C. mysql_ssl_connect()

D. secure_connect()

Hint

Identify the API and operation first, then distinguish connection setup, statement execution and result processing.

Answer A: mysqli_real_connect(...)

MySQLi separates initialization and TLS configuration from opening the connection. Under the stated setup, mysqli_real_connect performs the connection step using the configured handle and required options. The other names are not standard connection functions in the supplied note. Choosing the actual API does not mean that any call automatically verifies certificates; that protection depends on the verification configuration explicitly included in the question.

Why each choice is right or wrong

A - Correct: This is the connection step in the documented MySQLi TLS sequence.

B - Incorrect: This is not the documented PDO or MySQLi connection API.

C - Incorrect: The note rejects this invented SSL connection function.

D - Incorrect: The note rejects this generic invented function name.

Primary note proof

Study-note section WEB31

> Configure MySQLi TLS options through mysqli_init(), mysqli_ssl_set(...) and mysqli_real_connect(...) with the required verification configuration.

Study-note section WEB31

> mysqli_ssl_connect(), pdo_connect_ssl(), mysql_ssl_connect() and secure_connect() are not substitutes for the MySQLi TLS configuration sequence above.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 79 | lines 9-16

5.13.2 Creating Database Connection in PHP
1. Connecting to MySQL
The basic command to initiate a MySQL connection is
$link=mysql_connect($hostname, $user, $password); if you‘re using variables, or
$link=mysql_connect(„localhost“, „root“, „sesame“); if you‘re using literal strings. Here
$Hostname - the ip address or hostname of the MySQL server. If the MySQL server
and the php server are on the same machine use localhost or 127.0.0.1, else use the ip
address of the database server.

Question sources

Computer Science model exam · Question 45

University of Gondar model exam · Question 45

Question 21 | Q00315

Which JavaScript function is used to display a dialog box with an alert message?

A. console.log()

B. confirm()

C. alert()

D. prompt()

Hint

Distinguish the browser object or dialog role from the kind of response it collects.

Answer C: alert()

Alert shows a browser popup containing its argument (p.47). Prompt requests input, confirm returns a Boolean choice, and console.log writes to the console (p.46). Evidence: PDF p. 47, PDF p. 46.

Why each choice is right or wrong

A - Incorrect: Console output is not an alert dialog.

B - Incorrect: Confirmation presents OK/Cancel and returns a Boolean.

C - Correct: Exactly the documented alert popup.

D - Incorrect: Prompt additionally requests text input.

Primary note proof

Study-note section WEB22

alert displays information, confirm returns a Boolean, and prompt requests text or returns null on cancellation.

Study-note section WEB22

console.log logs diagnostics.

Study-note section WEB-S03

Alert is a notification; confirm additionally asks for an OK/Cancel decision, while prompt additionally offers a text field.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 47 | lines 2-9

2. Alert: shows a browser pop up with the information inside the parenthesis
3. The write() method
- The write() method writes HTML expressions or JavaScript code to a document.
- The write() method is mostly used for testing: If it is used after an HTML document is fully loaded, it will delete all existing HTML.
Usage:
document.write(expr)

Web Programming module | PDF page 46 | lines 16-27

Accepting user input in JavaScript actually is not a difficult task. JavaScript has a function called prompt, which is used to accept input from the user. But for the result to be useful for us, it has to be stored in a variable. Here is a simple example
var name = prompt("Enter your name: ");
alert("Hello " + name);
➢ Prompt will show a modal windows with a text message, an input field for the visitor, and the buttons OK/Cancel
➢ We can also use confirm to get information from a user:- the function confirm shows a modal window with a question and two buttons: OK and Cancel
The result is true if OK is pressed and false otherwise
Generating an output in JavaScript can be done in different ways.
1. Console.log: outputs a string to the browser console.

Question sources

Computer Science model exam · Question 46

University of Gondar model exam · Question 46

Question 22 | Q00316

Which JavaScript method is used to select an HTML element by its ID?

A. getElementById()

B. getElementByTag()

C. getElementByName()

D. getElementByClass()

Hint

Track which node is selected or created, and distinguish changing content from attaching a node.

Answer A: getElementById()

The DOM methods list says getElementById(id) returns the element with that specific ID (p.52). Evidence: PDF p. 52.

Why each choice is right or wrong

A - Correct: Exact ID lookup method.

B - Incorrect: Not the documented getElementsByTagName; also tag selection differs.

C - Incorrect: No getElementByName is defined here; not ID lookup.

D - Incorrect: Not the documented class lookup and not ID lookup.

Primary note proof

Study-note section WEB20

> document.getElementById("x") returns the matching element or null; querySelector(".item") returns the first match, and querySelectorAll returns a static NodeList.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 52 | lines 10-19

> 4.10.1 Accessing HTML elements in JavaScript
> In the DOM Api, there are different methods to get access to HTML elements. We will list the available methods here, but only the most recent methods are covered here.
> - getElementById(id) returns an element with that specific ID
> - getElmentsByClassName(class) returns elements with that specific class
> getElementsByTagName(tag) returns elements with the given tag name
> - querySelector(selector) → The Document method querySelector() returns the first Element within the document that matches the specified selector, or group of selectors. If no matches are found, null is returned.

Question sources

Computer Science model exam · Question 47

University of Gondar model exam · Question 47

Question 23 | Q00317

Which language is used to add interactivity and dynamic behavior to a web page?

A. HTML

B. PHP

C. CSS

D. JavaScript

Hint

Identify the role requested and compare it with the definitions and constraints in the cited passages.

Answer D: JavaScript

The module divides roles: HTML structure, CSS presentation, JavaScript functionality and interactive content updates (p.44). Evidence: PDF p. 44, PDF p. 60.

Why each choice is right or wrong

A - Incorrect: HTML supplies structure.

B - Incorrect: PHP generates server output, whereas this stem targets page interactivity.

C - Incorrect: CSS supplies presentation.

D - Correct: JavaScript supplies interactive browser behavior.

Primary note proof

Study-note section WEB01

> HTML supplies structure/meaning; CSS controls presentation; JavaScript supplies programmable interactivity.

Study-note section WEB01

> PHP, Python, JSP/Java and ASP.NET applications generate server responses and access databases; C# is commonly used with ASP.NET.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 44 | lines 9-19

> JavaScript is a scripting or programming language that allows us to implement complex features on web pages. JavaScript will enable us to display timely content updates, interactive maps, 2D/3D animated graphics etc. JavaScript is one of the three layers of web technologies which lets to add functionality to a web page. The three layers of web technologies are stacked together nicely, HTML will let's structure the webpage, CSS deals with the presentation of the web page and JavaScript the functionality.'
> What can JavaScript really do? It can

- Stores values inside variables
- Perform operations on pieces of texts
- Run a code in response to events

Web Programming module | PDF page 60 | lines 4-10

PHP is a server-side scripting language, which can be embedded in HTML or used as a standalone binary (although the former use is much more common). PHP stands for Hypertext Preprocessor. The product was originally named Personal Home Page Tools, and many people still think that is what the acronym stands for. But as it expanded in scope, a new and more appropriate name was selected by community vote. PHP is the language that you use to make the server generate dynamic output-output that is potentially different each time a browser re-quests a page.

Question sources

Computer Science model exam · Question 48

University of Gondar model exam · Question 48

Question 24 | Q00318

Which of the following languages is primarily responsible for defining the structure and content of a web page?

A. HTML

B. JavaScript

C. PHP

D. CSS

Hint

Identify the role requested and compare it with the definitions and constraints in the cited passages.

Answer A: HTML

HTML defines the meaning and structure of web content; CSS handles presentation and JavaScript behavior (p.10). Evidence: PDF p. 10, PDF p. 60.

Why each choice is right or wrong

A - Correct: Precisely the module HTML role.

B - Incorrect: Behavior rather than primary structure.

C - Incorrect: Server-generated dynamic output, not the markup language defining structure.

D - Incorrect: Presentation rather than primary content structure.

Primary note proof

Study-note section WEB01

> HTML supplies structure/meaning; CSS controls presentation; JavaScript supplies programmable interactivity.

Study-note section WEB01

> PHP, Python, JSP/Java and ASP.NET applications generate server responses and access databases; C# is commonly used with ASP.NET.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 10 | lines 9-16

> HTML (HyperText Markup Language) is the most basic building block of the Web.
> HTML is not a programming language rather it is a markup language that tells web browsers how to structure the web page. HTML consists of a series of elements, which you use to enclose, wrap or markup different parts of content to make it appear or act in a certain way.
> HTML defines the meaning and structure of web content. Other technologies besides HTML are generally used to describe a web page's appearance/presentation (CSS) or functionality/ behavior (JavaScript).

Web Programming module | PDF page 60 | lines 4-10

> PHP is a server-side scripting language, which can be embedded in HTML or used as a standalone binary (although the former use is much more common). PHP stands for Hypertext Preprocessor. The product was originally named Personal Home Page Tools, and many people still think that is what the acronym stands for. But as it expanded in scope, a new and more appropriate name was selected by community vote. PHP is the language that you use to make the server generate dynamic output-output that is potentially different each time a browser re-quests a page.

Question sources

Computer Science model exam · Question 49

University of Gondar model exam · Question 49

Question 25 | Q00319

Which PHP function is used to check if a file or directory exists?

A. file_exists()

B. file_exists_check()

C. is_file()

D. file_check()

Hint

Identify the role requested and compare it with the definitions and constraints in the cited passages.

Answer A: file_exists()

WEB30 directly distinguishes file_exists, which tests files or directories, from is_file, which narrows the test to regular files. The question explicitly includes either a file or directory, so file_exists matches. The other two named checks are not the provided APIs, while is_file is too restrictive for the requested test.

Why each choice is right or wrong

A - Correct: file_exists() checks existence for files or directories, exactly the two entry kinds in the stem.

B - Incorrect: file_exists_check() is not the filesystem existence API identified by the complete note.

C - Incorrect: is_file() tests regular files and would not report an existing directory as a regular file.

D - Incorrect: file_check() is not the filesystem existence API given in WEB30.

Primary note proof

Study-note section WEB30

> file_exists tests files or directories; is_file narrows to regular files.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 81 | lines 22-27

> 5.14 Input-Output
> PHP has several functions for creating, reading, uploading, and editing files. The
> fopen() function is used to open files in PHP.
> Opening a file
> The first parameter of this function contains the name of the file to be opened and
> the second parameter specifies in which mode the file should be opened: Example

Question sources

Computer Science model exam · Question 50

University of Gondar model exam · Question 50

Question 26 | Q00320

Using the procedural MySQLi API with connection $conn, which function reports rows changed, inserted or deleted by the last successful data-changing statement?

A. mysqli_num_rows($result)

B. $stmt->rowCount()

C. get_affected_rows($conn)

D. mysqli_affected_rows($conn)

Hint

Identify the API and operation first, then distinguish connection setup, statement execution and result processing.

Answer D: mysqli_affected_rows($conn)

The procedural MySQLi affected-row function takes a connection and reports the effect of a successful data-changing statement under the connection's options. Counting rows in a SELECT result is a different operation, and a PDO statement method belongs to a different API. The question specifies both the API and the kind of row count, making the procedural call uniquely appropriate without assuming all PHP database interfaces share identical function names.

Why each choice is right or wrong

A - Incorrect: This counts rows in a result set, not the last data-changing statement's effect.

B - Incorrect: This is a PDO statement method rather than the requested procedural MySQLi call.

C - Incorrect: This is not the documented procedural function.

D - Correct: This is the documented affected-row function for the connection.

Primary note proof

Study-note section WEB32

> mysqli_num_rows counts a result's rows; mysqli_affected_rows($conn) counts changed/inserted/deleted rows under its options; mysqli_insert_id($conn) reports a generated AUTO_INCREMENT value from the connection.

Study-note section WEB-S04

> PDOStatement::rowCount() is a method on a PDO statement object that reports affected rows for its DELETE, INSERT or UPDATE statement.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 80 | lines 16-23

> 5.13.4 Processing Query Result.
> 4. Fetching data sets
> The result of a query returned by the mysql_query() function is an interger showing the

success or failure of the function not the desired data. So you have to use one of the mysql_fetch_..() functions to get the actual result. There are many functions to do so, but the most commonly used ones are- Mysql_fetch_row($result) - this function takes the result of the mysql_query() function as an argument and returns the data as an enumerated array.

Question sources

Computer Science model exam · Question 51

University of Gondar model exam · Question 51

Question 27 | Q00321

Which PHP superglobal array is used to retrieve information about the server and execution environment?

A. $_POST

B. $_SESSION

C. $_GET

D. $_SERVER

Hint

Identify the data source or security responsibility precisely, and check whether a combined source or a different control could also qualify.

Answer D: $_SERVER

$_SERVER is the predefined array for server-created headers, paths and script locations (p.62). Evidence: PDF p. 62, PDF p. 76.

Why each choice is right or wrong

A - Incorrect: POST contains form/request variables.

B - Incorrect: SESSION stores per-user application state (p.76).

C - Incorrect: GET contains GET request variables.

D - Correct: Matches server/execution information.

Primary note proof

Study-note section WEB27

$_GET contains query parameters; $_POST contains supported form POST data; $_FILES upload metadata; $_SERVER request/environment details; $_COOKIE cookie values; $_SESSION session data after startup.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 62 | lines 19-26

- $_SERVER → This is an array containing information such as headers, paths, and script locations. The entries in this array are created by the web server. There is no guarantee that every web server will provide any of these. See next section for a complete list of all the SERVER variables.
- $_GET → An associative array of variables passed to the current script via the HTTP GET method.
- $_POST → An associative array of variables passed to the current script via the HTTP POST method.

Web Programming module | PDF page 76 | lines 17-23

Storing a Session Variable
The correct way to store and retrieve session variables is to use the PHP $_SESSION variable:

```
<?php
session_start();
// store session data
$_SESSION['views']=1;
```

Question sources

Computer Science model exam · Question 52

University of Gondar model exam · Question 52

Question 28 | Q00322

Which PHP superglobal is the dedicated source for supported form fields submitted using HTTP POST, rather than a configurable combination of request sources?

A. $_REQUEST

B. $_GET

C. $_POST

D. $_SERVER

Hint

Identify the data source or security responsibility precisely, and check whether a combined source or a different control could also qualify.

Answer C: $_POST

$_POST is the dedicated array for supported form POST data. $_REQUEST may also contain POST values, but combines sources according to configuration and is therefore not the dedicated source requested. $_GET contains query parameters, while $_SERVER contains request and environment details. The distinction is the origin-specific array, not whether a value could appear in more than one superglobal.

Why each choice is right or wrong

A - Incorrect: $_REQUEST can include POST values, but combines configured request sources rather than identifying only POST form data.

B - Incorrect: $_GET contains URL query parameters rather than the dedicated POST form map.

C - Correct: $_POST is specifically the supported form POST-data source.

D - Incorrect: $_SERVER holds request/environment information, not the submitted POST field map.

Primary note proof

Study-note section WEB27

> $_GET contains query parameters; $_POST contains supported form POST data; $_FILES upload metadata; $_SERVER request/environment details; $_COOKIE cookie values; $_SESSION session data after startup.

Study-note section WEB27

> $_REQUEST may combine GET/POST/cookie data according to configuration; it is not a database interface and has ambiguous precedence, so prefer the intended source.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 62 | lines 19-26

> - $_SERVER → This is an array containing information such as headers, paths, and script locations. The entries in this array are created by the web server. There is no guarantee that every web server will provide any of these. See next section for a complete list of all the SERVER variables.
> - $_GET → An associative array of variables passed to the current script via the HTTP GET method.
> - $_POST → An associative array of variables passed to the current script via the HTTP POST method.

Web Programming module | PDF page 73 | lines 11-18

> • $_GET[]: It is used the retrieve the information from the form control through the parameters sent in the URL. It takes the attribute given in the url as the parameter.
> • $_POST[]: It is used the retrieve the information from the form control through the HTTP POST method. IT takes name attribute of corresponding form control as the parameter.
> • $_REQUEST[]: It is used to retrieve an information while using a database.

Question sources

Computer Science model exam · Question 53

University of Gondar model exam · Question 53

Question 29 | Q00357

Which names describe a server that receives webpage requests through HTTP/HTTPS and returns representations? Select all that apply.

A. Http Server

B. Web Server

C. FTP server

D. DNS Server

Hint

Identify the role requested and compare it with the definitions and constraints in the cited passages.

Answer A, B: Http Server; Web Server

A web server is also called an HTTP server in this context. It receives requests and returns resource representations, possibly invoking application code to construct them. The two labels describe the same serving role and must both be selected. FTP serves a distinct transfer purpose, while DNS supplies name-to-record resolution. The question now explicitly permits the synonymous correct names instead of forcing an arbitrary choice between them.

Why each choice is right or wrong

A - Correct: HTTP server names the request-and-response role described.

B - Correct: Web server is the equivalent name in this context.

C - Incorrect: FTP is not the stated HTTP webpage-serving role.

D - Incorrect: DNS resolves names rather than returning webpage representations through HTTP.

Primary note proof

Study-note section WEB01

> A web/HTTP server receives requests and returns representations, sometimes invoking application code.

Study-note section WEB02

> Hosting supplies an environment where a site is served; domain registration reserves a name, and DNS maps names to network records.

Study-note section WEB-S14

> HTTP defines web application requests, response status codes and representations.

Study-note section WEB-S14

> An HTTP exchange can use underlying TCP connections and IP addresses; naming that network stack does not identify the application-level method or status semantics.

Study-note section WEB-S14

FTP is a file-transfer application protocol.

Study-note section WEB-S14

SMTP transports electronic mail.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 9 | lines 2-4

• Web pages are files stored on computers called Web servers.
• Computers reading the Web pages are called Web clients.
• Web clients view the pages with a program called a Web browser.

Web Programming module | PDF page 8 | lines 29-34

• The World Wide Web (WWW) is most often called the Web.
• The Web is a network of computers all over the world.
• All the computers in the Web can communicate with each other.
• All the computers use a communication standard called HTTP.
How does the WWW work?
• Web information is stored in documents called Web pages.

Question sources

Computer Science model exam · Question 88

University of Gondar model exam · Question 87

Question 30 | Q00722

The attribute used in the body tag to change the default font color for the page is _____.

A. Bgcolor attribute

B. text attribute

C. color attribute

D. link tag

Hint

Identify the requested presentation effect and layout context before matching the property or rule.

Answer B: text attribute

The body attribute list explicitly gives text="text color" separately from bgcolor and link (p.12). Evidence: PDF p. 12.

Why each choice is right or wrong

A - Incorrect: bgcolor sets background color.

B - Correct: text is explicitly paired with text color.

C - Incorrect: color is not the listed body default-text attribute.

D - Incorrect: link is paired with link color, not all text.

Primary note proof

Study-note section WEB13

> In historical markup, the body text attribute controlled default text color, while bgcolor controlled background.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 12 | lines 30-36

> Some of the common attributes used in the body element
> ✓ bgcolor=“color”
> ✓ background=“img url”
> ✓ text=“text color”
> ✓ link=“link color”
> ✓ alink=“active link color”
> ✓ vlink=“visited link color”.....

Question sources

Computer Science model exam 2 · Question 63

Question 31 | Q00723

For a basic static website with no client scripts that change its displayed content, which single option gives the complete set of true statements about its stored-page delivery model?

A. Changing the stored page representation requires changing the stored file

B. The server returns stored files rather than constructing a response from application logic

C. The page representation is delivered as stored

D. Viewers requesting the same unchanged file receive the same stored representation

E. All of the above.

Hint

Identify the role requested and compare it with the definitions and constraints in the cited passages.

Answer E: All of the above.

A basic static server returns stored files rather than dynamically constructing representations from application logic. The question restricts content to the stored representation and excludes scripts that could change the rendered view. Under those assumptions, A through D describe compatible aspects of the same model. All of the above is the complete single selection; each individual statement is true but would cover only part of the requested set.

Why each choice is right or wrong

A - Incorrect: True but incomplete: it states only how the stored representation changes.

B - Incorrect: True but incomplete: it states the serving model alone.

C - Incorrect: True but incomplete: it omits the other delivery properties.

D - Incorrect: True but incomplete: it states sameness for the same unchanged resource only.

E - Correct: This aggregate contains every true statement under the specified model.

Primary note proof

Study-note section WEB02

> A basic static server returns stored files; dynamic processing constructs a representation from logic, requests or data.

Study-note section WEB02

> Static pages can still run interactive browser scripts, and dynamic generation need not change visible text every time.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 8 | lines 3-6

1.1 Course overview
This chapter deals with the Overview of Internet, website, webpage, types of websites (Static vs dynamic), webpage design tools, Web World Wide Web, Web Hosting and Domain Name Registration. To deliver these contents active learning methods such as

Web Programming module | PDF page 60 | lines 8-10

scope, a new and more appropriate name was selected by community vote. PHP is the language that you use to make the server generate dynamic output-output that is potentially different each time a browser re-quests a page.

Question sources

Computer Science model exam 2 · Question 64

Question 32 | Q00724

Which single option gives the complete selection of technologies that can generate server-side web responses?

A. PHP

B. ASP.NET

C. Python

D. All of the above

Hint

Identify the role requested and compare it with the definitions and constraints in the cited passages.

Answer D: All of the above

PHP, Python and ASP.NET applications can generate server responses and access databases. The question deliberately asks about technologies rather than calling every entry a programming language, since ASP.NET is an application technology. All three listed entries satisfy that broader but precise role, so the aggregate is the complete single answer. Selecting an individual entry would state a true example while omitting the other two supported server-side technologies.

Why each choice is right or wrong

A - Incorrect: PHP fits, but this single entry omits the other valid technologies.

B - Incorrect: ASP.NET applications fit, but the selection is incomplete.

C - Incorrect: Python applications fit, but the selection is incomplete.

D - Correct: All three entries support server response generation.

Primary note proof

Study-note section WEB01

PHP, Python, JSP/Java and ASP.NET applications generate server responses and access databases; C# is commonly used with ASP.NET.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 60 | lines 3-10

5.1 Introduction to PHP
PHP is a server-side scripting language, which can be embedded in HTML or used as a standalone binary (although the former use is much more common). PHP stands for Hypertext Preprocessor. The product was originally named Personal Home Page Tools, and many people still think that is what the acronym stands for. But as it expanded in scope, a new and more appropriate name was selected by community vote. PHP is the language that you use to make the server generate dynamic output-output that is potentially different each time a browser re-quests a page.

Question sources

Computer Science model exam 2 · Question 65

Question 33 | Q00725

Which option gives the complete set of listed JavaScript dialogs that can display a supplied message, whether or not they also collect a response?

A. Prompt

B. Alert

C. Confirm

D. All of the above

Hint

Distinguish the browser object or dialog role from the kind of response it collects.

Answer D: All of the above

Alert, confirm and prompt all present a supplied message. Alert provides a notification, confirm additionally requests an OK/Cancel decision, and prompt additionally offers a text field. The question asks for the complete set of qualifying dialogs, so All of the above is the complete selection. Each individual dialog is a true example but omits the other two qualifying dialogs.

Why each choice is right or wrong

A - Incorrect: Prompt displays a message while requesting text, so it qualifies; selecting it alone omits alert and confirm and is incomplete.

B - Incorrect: Alert displays a notification, so it qualifies; selecting it alone omits prompt and confirm and is incomplete.

C - Incorrect: Confirm displays a message while requesting an OK/Cancel decision, so it qualifies; selecting it alone omits prompt and alert and is incomplete.

D - Correct: All three listed dialogs can display a supplied message, so this is the complete qualifying set.

Primary note proof

Study-note section WEB-S03

> alert(message), confirm(message) and prompt(message) all present a supplied message.

Study-note section WEB22

> alert displays information, confirm returns a Boolean, and prompt requests text or returns null on cancellation.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 47 | lines 2-5

> 2. Alert: shows a browser pop up with the information inside the parenthesis
> 3. The write() method
> - The write() method writes HTML expressions or JavaScript code to a document.

Web Programming module | PDF page 46 | lines 16-25

> Accepting user input in JavaScript actually is not a difficult task. JavaScript has a function called prompt, which is used to accept input from the user. But for the result to be useful for us, it has to be stored in a variable. Here is a simple example
> var name = prompt("Enter your name: ");
> alert("Hello " + name);
> ➢ Prompt will show a modal windows with a text message, an input field for the visitor, and the buttons OK/Cancel
> ➢ We can also use confirm to get information from a user:- the function confirm shows a modal window with a question and two buttons: OK and Cancel
> The result is true if OK is pressed and false otherwise

Question sources

Computer Science model exam 2 · Question 66

Question 34 | Q00726

What does these code possibly refers to<link rel="stylesheet" href="styles.css"> ?

A. Defines a new CSS by the name styles

B. Calls an internal style sheet called styles

C. Calls an external style sheet called styles

D. Defines an inline CSS by the name styles

Hint

Identify which elements a rule targets and distinguish selector syntax from declaration syntax.

Answer C: Calls an external style sheet called styles

The link tag identifies a separate stylesheet URL (p.29); p.28 explains that this links an external stylesheet shared by pages. Evidence: PDF p. 29, PDF p. 28.

Why each choice is right or wrong

A - Incorrect: It references an existing file, not a CSS definition.

B - Incorrect: Internal CSS instead uses a style block.

C - Correct: It links the external styles.css file.

D - Incorrect: Inline CSS instead uses an element style attribute.

Primary note proof

Study-note section WEB11

> An external sheet uses <link rel="stylesheet" href="styles.css"> in head; an internal sheet uses style; an inline declaration uses an element’s style attribute.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 29 | lines 2-6

> E.g.
> <link rel="stylesheet" href="style.css">
> The rel attributes names the relationship of the linked document to the current document. The href attribute specifies the URL of the linked document. The URL can be relative or absolute

Web Programming module | PDF page 28 | lines 27-31

> 3. External style sheets
> An external style sheet is used when the style is applied to many pages. With an external style sheet, you can change the look of an entire website by changing one file (the style sheet). Each page should be linked to the style sheet using the <link> tag inside the head section.

Question sources

Computer Science model exam 2 · Question 67

Question 35 | Q00727

Which valid HTML snippet uses CSS to set the body background color to yellow?

A. <body background="yellow">

B. <background>yellow</background>

C. <body style="background-color: yellow">

D. <background color="yellow">text<background>

Hint

Identify which elements a rule targets and distinguish selector syntax from declaration syntax.

Answer C: <body style="background-color: yellow">

The CSS property background-color controls an element's background. An inline declaration belongs in the opening element's style attribute, so the body tag applies the requested color. The other snippets either use a background attribute instead of the specified CSS property or invent markup that does not express this body style.

Why each choice is right or wrong

A - Incorrect: This uses an attribute rather than the requested background-color declaration.

B - Incorrect: This invents a background element instead of styling body.

C - Correct: The valid body start tag contains the appropriate CSS declaration.

D - Incorrect: This markup does not supply a valid body style declaration.

Primary note proof

Study-note section WEB13

> color sets text color; background-color sets background; font-size size, font-family face, font-style italic, font-weight weight, text-align inline-content alignment, and text-decoration effects such as underline.

Study-note section WEB11

> An external sheet uses <link rel="stylesheet" href="styles.css"> in head; an internal sheet uses style; an inline declaration uses an element's style attribute.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 28 | lines 4-8

> 1. Inline stylesheet
> In HTML, style information can be specified for an individual element via the style attribute. The value of a style attribute is a declaration block without the curly braces.
> E.g.
> Inline style

Web Programming module | PDF page 34 | lines 3-10

3.3.1 Foreground and Background Properties
The background shorthand CSS property sets all background style properties at once, such as color, image, origin and size, or repeat method. You have also specific background properties that you can apply like background-color, background-image etc.
To set the background-color of an element and provide the value of the color in different form.
1. Keyword values -> red, blue

Web Programming module | PDF page 12 | lines 30-33

Some of the common attributes used in the body element
✓ bgcolor="color"
✓ background="img url"
✓ text="text color"

Question sources

Computer Science model exam 2 · Question 68

Question 36 | Q00728

What is the method used to get the result from the form data sent with both GET and POST?

A. $_REQUEST

B. $_POST

C. $_GET

D. A & B

Hint

Identify the data source or security responsibility precisely, and check whether a combined source or a different control could also qualify.

Answer A: $_REQUEST can combine GET and POST input according to configuration.

WEB27 states that $_GET contains query parameters and $_POST supported form POST data, while $_REQUEST may combine GET, POST, and cookie data according to configuration. Therefore $_REQUEST is the offered combined-source mechanism. It is an array rather than a method, and its configuration-dependent precedence is a reason to prefer an explicit source in real code.

Why each choice is right or wrong

A - Correct: $_REQUEST can combine GET and POST values according to PHP configuration, matching the combined-source question.

B - Incorrect: $_POST holds supported form POST data and does not generally combine query GET values.

C - Incorrect: $_GET holds URL query parameters rather than combining both query and form POST sources.

D - Incorrect: Adding $_POST to the already combined $_REQUEST is redundant and is not the single combined mechanism requested.

Primary note proof

Study-note section WEB27

> $_GET contains query parameters; $_POST contains supported form POST data; $_FILES upload metadata; $_SERVER request/environment details; $_COOKIE cookie values; $_SESSION session data after startup.

Study-note section WEB27

> $_REQUEST may combine GET/POST/cookie data according to configuration; it is not a database interface and has ambiguous precedence, so prefer the intended source.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 73 | lines 11-18

> • $_GET[]: It is used the retrieve the information from the form control through the parameters sent in the URL. It takes the attribute given in the url as the parameter.
> • $_POST[]: It is used the retrieve the information from the form control through the HTTP POST method. IT takes name attribute of corresponding form control as the parameter.
> • $_REQUEST[]: It is used to retrieve an information while using a database.

Question sources

Computer Science model exam 2 · Question 69

Question 37 | Q00729

When using mysqli_connect(), which argument selects the default database and may be deferred until after connecting?

A. Host

B. Database

C. Username

D. Password

Hint

Identify the API and operation first, then distinguish connection setup, statement execution and result processing.

Answer B: Database

The mysqli_connect signature separates host, user, password and database, followed by port and socket. Selecting a database can be deferred even though several arguments also have defaults. The revised question asks which argument performs that particular selection, rather than incorrectly implying only one argument is optional. The database argument names the initial database; the remaining listed arguments identify the server or provide authentication credentials.

Why each choice is right or wrong

A - Incorrect: The host identifies the server, not the default database.

B - Correct: This selects the initial database and can be deferred.

C - Incorrect: The username supplies an authentication identity.

D - Incorrect: The password supplies a credential, not the database selection.

Primary note proof

Study-note section WEB31

> mysqli_connect(host,user,password,database,port,socket) opens a connection; selecting a database can be deferred, and defaults make several arguments technically optional.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 79 | lines 9-29

> 5.13.2 Creating Database Connection in PHP
> 1. Connecting to MySQL
> The basic command to initiate a MySQL connection is
> $link=mysql_connect($hostname, $user, $password); if you‘re using variables, or
> $link=mysql_connect(„localhost“, „root“, „sesame“); if you‘re using literal strings. Here
> $Hostname - the ip address or hostname of the MySQL server. If the MySQL server and the php server are on the same machine use localhost or 127.0.0.1, else use the ip address of the database server.
> $User - the user name of the database if specified by one of the grant commands. If username and password is not given to the database (which is not recommended) use root as your username which is the default.
> $Password - the password of the database if specified by one of the grant commands. The default password for any MySQL database is empty, so if password is not granted leave it null. $link - is a variable and is called the link identifier. You will use this variable later.
> 2. Selecting the database
> After creating the connection identifier, the next thing, you will do is select a database among the databases you have created. To do this you will use the mysql_select_db() method.
> Syntax:
> $db=mysql_select_db(„dbname“,[link identifier]);

Question sources

Computer Science model exam 2 · Question 70

Question 38 | Q00888

Consider the CSS reset:
nav ul {
list-style-type: none;
margin: 0;
padding: 0;
}
What does this rule itself accomplish for a navigation list?

A. Aligns the navigation bar to the right

B. Adds hover effects to list items

C. Removes list bullets and default margin and padding

D. Converts the list into a dropdown menu

Hint

Identify which elements a rule targets and distinguish selector syntax from declaration syntax.

Answer C: Removes list bullets and default margin and padding

The rule selects unordered lists inside nav elements. list-style-type removes list markers, while margin and padding reset the relevant spacing to zero. Nothing in the rule chooses a horizontal or right-aligned layout, installs a hover state or implements dropdown behavior.

Why each choice is right or wrong

A - Incorrect: No alignment property is supplied.

B - Incorrect: No hover selector or interaction rule is supplied.

C - Correct: These are exactly the marker and spacing effects of the three declarations.

D - Incorrect: A dropdown needs additional layout and interaction rules.

Primary note proof

Study-note section WEB08

> Resetting nav ul with list-style-type:none; margin:0; padding:0 removes bullets and default spacing only; it does not itself arrange links horizontally or create a dropdown.

Study-note section WEB11

> Type p selects paragraph elements, .notice selects a class, #logo an ID, h1,h2 groups selectors, nav ul selects descendants and nav>ul direct children.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 39 | lines 2-10

tag. Lists by default have a list-style-type, margin and padding properties set by the user agent style sheet. Since we don't want the default styling lets reset it
Here is the code to do that
ul {
list-style-type: none;
margin: 0;
padding: 0;
}
Next set the display property of ul to flex. This will align the list items

Question sources

Computer Science Exit Exam · 2018 · Question 1

Question 39 | Q00919

Which PHP superglobal is dedicated specifically to retrieving URL query parameters, rather than a configurable mixture of request sources?

A. $_REQUEST

B. $_POST

C. $_GET

D. isset()

Hint

Identify the data source or security responsibility precisely, and check whether a combined source or a different control could also qualify.

Answer C: $_GET

URL query values belong to $_GET. $_REQUEST can also include query data under some configurations, but it combines sources and therefore is not the dedicated query array requested here. $_POST represents supported form POST data, and isset tests whether an entry exists and is non-null rather than retrieving the entry's value. The question asks for the dedicated query array, making $_GET the unique selection.

Why each choice is right or wrong

A - Incorrect: This can mix query, POST and cookie sources according to configuration.

B - Incorrect: This represents form POST data rather than the dedicated URL query source.

C - Correct: This is the dedicated query-parameter superglobal.

D - Incorrect: This tests existence and non-null; it is not a request-data array.

Primary note proof

Study-note section WEB27

$_GET contains query parameters; $_POST contains supported form POST data; $_FILES upload metadata; $_SERVER request/environment details; $_COOKIE cookie values; $_SESSION session data after startup.

Study-note section WEB27

$_REQUEST may combine GET/POST/cookie data according to configuration; it is not a database interface and has ambiguous precedence, so prefer the intended source.

Study-note section WEB27

isset tests existence and non-null, not truth or valid syntax.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 73 | lines 9-18

• isset(): This function is used to determine whether the variable or a form control is having a value or not.
• $_GET[]: It is used the retrieve the information from the form control through the parameters sent in the URL. It takes the attribute given in the url as the parameter.
• $_POST[]: It is used the retrieve the information from the form control through the HTTP POST method. IT takes name attribute of corresponding form control as the parameter.
• $_REQUEST[]: It is used to retrieve an information while using a database.

Question sources

Computer Science Exit Exam · 2018 · Question 32

Question 40 | Q00926

In CSS, which property is used to change the text color of an element?

A. text-color

B. font-color

C. color

D. Foreground

Hint

Identify the requested presentation effect and layout context before matching the property or rule.

Answer C: color

The color property sets foreground content color (p.34), and p.31 illustrates p { color: red; }. Evidence: PDF p. 34, PDF p. 31.

Why each choice is right or wrong

A - Incorrect: Not the documented CSS name.

B - Incorrect: Not the documented CSS name.

C - Correct: Exact property used for text/foreground color.

D - Incorrect: A description of the effect, not the CSS property spelling.

Primary note proof

Study-note section WEB13

> color sets text color; background-color sets background; font-size size, font-family face, font-style italic, font-weight weight, text-align inline-content alignment, and text-decoration effects such as underline.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 34 | lines 18-20

> Syntax:
> background-image: url(‘anyname.jpg’)
> The color property sets the color of the foreground content of the selected elements

Web Programming module | PDF page 31 | lines 2-4

```
p {
color: red;
}
```

Question sources

Computer Science Exit Exam · 2018 · Question 39

Question 41 | Q00946

is a service that allows organizations and individuals to post a website or a

web page onto the Internet.

A. Web hosting

B. Internet service provider

C. .

Web client

D. Domain name registration

Hint

Identify the role requested and compare it with the definitions and constraints in the cited passages.

Answer A: Web hosting

The module defines web hosting as the service allowing organizations/individuals to post a website or web page onto the Internet (p.9). Evidence: PDF p. 9.

Why each choice is right or wrong

A - Correct: Exact definition.

B - Incorrect: An ISP access service is not the hosting definition here.

C - Incorrect: A web client reads pages rather than hosting them.

D - Incorrect: Registration reserves a name, not the hosting service.

Primary note proof

Study-note section WEB02

> Hosting supplies an environment where a site is served; domain registration reserves a name, and DNS maps names to network records.

Study-note section WEB02

> An ISP provides connectivity.

Study-note section WEB01

> A browser/user agent requests resources and renders HTML/CSS, then runs permitted JavaScript.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 9 | lines 12-24

> What is web hosting?
> Web hosting is the place where all the files of your website live. Web hosting is a service that allows organizations and individuals to post a website or a web page onto the Internet. A web host, or web hosting service provider, is a business that provides the technologies and services needed for the website or webpage to be viewed in the Internet. Websites are hosted, or stored, on special computers called servers. When Internet users want to view your website, all they need to do is type your website address or domain (the domain name for the site has to be registered) into their browser. Their computer will then connect to your server and your webpages will be delivered to them through the browser.
> Domain Name Registration
> Domain name registration is the act of reserving a name on the Internet for a certain period. To get the address of a new website you have to register the domain name with

Question sources

Computer Science Exit Exam · 2018 · Question 59

Question 42 | Q00958

Which protocol is mostly used for communication between client and server in a web application?

A. FTP

B. SMTP

C. .
HTTP

D. SSH

Hint

Identify the role requested and compare it with the definitions and constraints in the cited passages.

Answer C: .
HTTP

The WWW discussion explicitly says web computers use the HTTP communication standard (p.8). Evidence: PDF p. 8.

Why each choice is right or wrong

A - Incorrect: Not the module web communication standard.

B - Incorrect: Not the module web communication standard.

C - Correct: HTTP is expressly named.

D - Incorrect: Not the module web communication standard.

Primary note proof

Study-note section WEB01

> The Internet connects networks; the Web is a resource system commonly using HTTP.

Study-note section WEB-S14

> HTTP defines web application requests, response status codes and representations.

Study-note section WEB-S14

> An HTTP exchange can use underlying TCP connections and IP addresses; naming that network stack does not identify the application-level method or status semantics.

Study-note section WEB-S14

> FTP is a file-transfer application protocol.

Study-note section WEB-S14

> SMTP transports electronic mail.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 8 | lines 29-34

• The World Wide Web (WWW) is most often called the Web.
• The Web is a network of computers all over the world.
• All the computers in the Web can communicate with each other.
• All the computers use a communication standard called HTTP.
How does the WWW work?
• Web information is stored in documents called Web pages.

Question sources

Computer Science Exit Exam · 2018 · Question 71

Question 43 | Q00960

What is the extension of JavaScript file?

A. javaS

B. JS

C. ¢.
java

D. CSS

Hint

Identify which elements a rule targets and distinguish selector syntax from declaration syntax.

Answer B: JS

The external script example uses script.js, establishing the .js extension (p.45). B represents JS, ignoring case of the descriptive option. Evidence: PDF p. 45, PDF p. 44.

Why each choice is right or wrong

A - Incorrect: javaS is not the demonstrated extension.

B - Correct: JS corresponds to the demonstrated .js extension.

C - Incorrect: java is not the demonstrated extension; Java is a different language.

D - Incorrect: CSS is for stylesheets, not JavaScript.

Primary note proof

Study-note section WEB15

Use <script src="app.js"></script> for an external .js file; script content has no HTML closing-tag syntax inside its JavaScript source.

Study-note section WEB15

JavaScript originated at Netscape; it is distinct from Java and supports sophisticated applications through prototype-based objects and first-class functions.

Study-note section WEB11

An external sheet uses <link rel="stylesheet" href="styles.css"> in head; an internal sheet uses style; an inline declaration uses an element's style attribute.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 45 | lines 12-14

- We can also include JavaScript as an external file. We can use a similar syntax
like the internal and add the src attribute. Here is how
<script src="script.js" defer></script>

Web Programming module | PDF page 44 | lines 4-7

JavaScript (JS) is a lightweight, interpreted or compiled programming language. It is a single threaded, dynamic language, supporting object oriented, functional programming styles. Do not confuse JavaScript with the Java Programming language. The two-programming language have very different syntax, semantics, and use.

Question sources

Computer Science Exit Exam · 2018 · Question 73

Question 44 | Q00980

A developer stores $_SESSION["user_id"] server-side and an editable logged_in cookie client-side. A protected endpoint grants access solely when logged_in=1 and never validates the server-side session. An unauthenticated attacker sets that cookie. Which statement is most accurate?

A. The endpoint is vulnerable: trusting the cookie alone bypasses the required server-session authorization

B. The endpoint is secure because server-side session data exists

C. The endpoint is vulnerable only if the genuine session ID is exposed

D. The endpoint is secure if HTTPS is used

Hint

Follow the identifier and server-side state through the stated lifecycle or access check; distinguish client-controlled claims from server decisions.

Answer A: The endpoint is vulnerable: trusting the cookie alone bypasses the required server-session authorization

The protected endpoint trusts an attacker-controlled value rather than checking authenticated server-side state. Setting the flag is therefore sufficient to gain the access that should require session authorization. Merely storing a user ID elsewhere does not help when that state is never consulted. No genuine session identifier must be stolen for this bypass, and HTTPS protects transmission rather than proving that a client-generated authorization claim is true.

Why each choice is right or wrong

A - Correct: The stated cookie-only authorization path allows the attacker to bypass the required session check.

B - Incorrect: Unused server-side state does not protect this endpoint.

C - Incorrect: No genuine session ID is needed when the endpoint trusts only the flag.

D - Incorrect: Transport protection does not make a forged client flag trustworthy.

Primary note proof

Study-note section WEB29

> A client cookie logged_in=1 is attacker-controlled.

Study-note section WEB29

> If the server trusts it alone, authorization can be bypassed.

Study-note section WEB29

> HTTPS does not make client-generated claims trustworthy.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 59 | lines 4-7

> Create a Cookie with JavaScript
> JavaScript can create, read, and delete cookies with the document.cookie property.
> With JavaScript, a cookie can be created like this:
> document.cookie = "username=John Doe";

Web Programming module | PDF page 76 | lines 2-5

> in one application. A PHP session allows you to store user information on the server for later use (i.e., username, shopping items, etc.). However, session information is temporary and will be deleted after the user has left the website. If you need a permanent storage you may want to store the data in a database.

Web Programming module | PDF page 76 | lines 17-23

> Storing a Session Variable
> The correct way to store and retrieve session variables is to use the PHP $_SESSION variable:

```
<?php
session_start();
// store session data
$_SESSION['views']=1;
```

Question sources

Computer Science Exit Exam · 2018 · Question 93

Question 45 | Q00985

Which one of the following is not feature of dynamic web page?

A. Contents can be generated on-the-fly

B. Changing content or lively

C. Contain the same prebuilt content each time the page is loaded

D. Ability to connect to a database

Hint

Identify the role requested and compare it with the definitions and constraints in the cited passages.

Answer C: Always serving the same prebuilt content is the static-generation description.

WEB02 contrasts a basic static server returning stored files with dynamic processing constructing a representation from logic, requests, or data. C describes the prebuilt static delivery model rather than the distinctive feature of dynamic generation. Dynamic pages may still happen to display identical text across loads; the exclusion concerns same prebuilt content as a model, not a requirement that every dynamic response visibly change.

Why each choice is right or wrong

A - Incorrect: Generating content on demand is directly consistent with dynamic processing from logic, requests, or data.

B - Incorrect: Dynamic content can change with inputs or application data, although visible changes are not mandatory on every load.

C - Correct: Always returning the same prebuilt content describes the static delivery model rather than dynamic response generation.

D - Incorrect: Server-side applications can access databases while constructing dynamic responses, as described in WEB01.

Primary note proof

Study-note section WEB02

> A basic static server returns stored files; dynamic processing constructs a representation from logic, requests or data.

Study-note section WEB02

> Static pages can still run interactive browser scripts, and dynamic generation need not change visible text every time.

Study-note section WEB01

> PHP, Python, JSP/Java and ASP.NET applications generate server responses and access databases; C# is commonly used with ASP.NET.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 60 | lines 8-16

> scope, a new and more appropriate name was selected by community vote. PHP is the language that you use to make the server generate dynamic output-output that is potentially different each time a browser re-quests a page.
> Client-side scripting is the glamorous, eye-catching part of Web development. In contrast, server-side scripting is invisible to the user. Server-side Web scripting is mostly about connecting Web sites to back-end servers, such as databases. This enables the following types of two-way communication:
> ➢ Server to client: Web pages can be assembled from back end-server output.
> ➢ Client to server: Customer-entered information can be acted upon.

Question sources

Computer Science Exit Exam · 2018 · Question 98

Question 46 | Q00986

Why should form <input> elements include an associated <label> with the for attribute?

A. It enables offline form storage

B. It encrypts user data

C. .
It increases form submission speed

D. It improves accessibility: screen readers announce the label when the input is focused

Hint

Separate the control role, displayed content, submitted value and form destination.

Answer D: An associated label gives the input an accessible name.

WEB09 connects a label's for value to the control's id. WEB07 requires programmatic labels for accessibility. Together these support an input label that assistive technology can announce when the control is focused. That association does not store the form offline, encrypt data, or increase submission speed; its purpose here is accessible identification of the control.

Why each choice is right or wrong

A - Incorrect: Label association identifies a control and does not create offline form storage.

B - Incorrect: A label does not encrypt values or change transport security; encryption needs a separate mechanism.

C - Incorrect: Linking a label to an input does not increase network or form-submission speed.

D - Correct: The associated label provides accessible control identification that screen readers can announce on focus.

Primary note proof

Study-note section WEB09

> A label's for matches the control's id; name identifies its submitted field.

Study-note section WEB07

> Give controls programmatic labels, clear link text and keyboard access; visual styling alone does not establish accessibility.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 21 | lines 13-22

> 2.2.10 HTML Form and Form Controls
> The <form> HTML element represents a document section containing interactive controls for submitting information. An HTML form is a section of a document containing normal content, markup, special elements called controls (checkboxes, radio buttons, menus, etc.) and labels on those controls. HTML Forms are required, when we want to collect data from a user. Using forms, we can build a website with user registration. We take the information collected from the user and then post it to the backend application such as php.
> Users interact with forms through named controls. There are various from controls available like text fields, text area, check box, drop-down menus etc.

Question sources

Computer Science Exit Exam · 2018 · Question 99

Question 47 | Q00992

Which HTML tag is used for program listing?

A. <p>

B. <pre>

C. <head>

D. <sub>

Hint

Use the element or attribute meaning and document structure, rather than appearance or a similar-looking name.

Answer B: <pre> preserves program-listing whitespace.

WEB06 says <pre> preserves source whitespace, which is needed for displaying an indented program listing. <code> can additionally mark code semantics, but it is not offered here. A paragraph does not preserve the listing's whitespace by itself, head is metadata, and sub marks a subscript. Therefore <pre> is the matching listed tag.

Why each choice is right or wrong

A - Incorrect: A paragraph marks prose structure and does not by itself preserve a program listing's indentation and line breaks.

B - Correct: The preformatted element preserves source whitespace, making it suitable for an indented program listing.

C - Incorrect: The head holds metadata rather than visible program-listing content.

D - Incorrect: The sub element marks subscript text and does not provide preformatted listing whitespace.

Primary note proof

Study-note section WEB06

> <pre> preserves source whitespace; <code> marks code.

Study-note section WEB06

> <!DOCTYPE html> selects modern standards mode; <html> is the document root, <head> holds metadata, and <body> contains document content.

Study-note section WEB06

> <sub>/<sup> mark sub/superscripts.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 15 | lines 27-34

> Paragraph: definition of paragraph
> Format: ...
> E.g., this is a paragraph of text. it has a new line before and after it.
> The browser inserts a new line before and after the text in the paragraph tag.
> Attribute:
> align="alignment" {left, right, center, justify}
> • line break - inserts a new line.
> Format: <br>. E.g., Line one <br> line two <br> line three <br> line four

Web Programming module | PDF page 12 | lines 6-12

<head>...</head>
- Contains information which is not displayed in the browser display area and may contain other tags in it
- Both the start and end tags may be omitted and inferred from child elements (HTML5)
- The head element may contain other elements such as base, link, meta, style, script, title

Web Programming module | PDF page 16 | lines 9-12

sub/sup - define either a subscript or a superscript
Format: _{...} ; ^{...}
E.g.
X₁² + 2X₃

Question sources

National Exit Exam practice questions · Question 6

Computer Science Exit Exam practice collection · Question 30

Question 48 | Q00996

Which attribute of a text input limits the number of characters the user may enter, rather than its visible width?

A. MAXLENGTH

B. TYPE

C. ACTION

D. STYLE

Hint

Identify which elements a rule targets and distinguish selector syntax from declaration syntax.

Answer A: MAXLENGTH

For a text input, maxlength limits entered text length, while size controls approximate visible width. The revised question removes the scrolling and new-line language because those are display concerns rather than the entered-character bound. TYPE chooses the control kind, ACTION identifies a form-processing destination and STYLE supplies presentation declarations. Browser length limits improve input behavior but must still be checked server-side when enforcing a security requirement.

Why each choice is right or wrong

A - Correct: MAXLENGTH supplies the entered-text length limit.

B - Incorrect: TYPE selects the input kind rather than a maximum length.

C - Incorrect: ACTION belongs to form destination configuration.

D - Incorrect: STYLE controls presentation rather than this input-length attribute.

Primary note proof

Study-note section WEB09

> For a text input, size indicates approximate visible width, whereas maxlength limits entered text length.

Study-note section WEB09

> A form’s action identifies its processing URL, method its submission method, and enctype its encoding.

Study-note section WEB11

> An external sheet uses <link rel="stylesheet" href="styles.css"> in head; an internal sheet uses style; an inline declaration uses an element’s style attribute.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 22 | lines 2-9

> 1. Text inputs create using the <input> tag, an input control can take many forms
> using the type attribute. Possible values for type attribute
> - Text - most common used for text inputs
> - Password - for password fields
> - Checkbox
> - Radio
> Other attributes for <input> tag
> - Name, value, size, maxlength

Web Programming module | PDF page 21 | lines 23-27

> Form attributes:
> - action → Backend script ready to process the data collected
> - method → method used to upload Data. The most frequently used
> - target → Specify the target window or frame where the result of the script
> will be displayed. It takes values like _blank, _self, _parent etc.

Question sources

National Exit Exam practice questions · Question 10

Computer Science Exit Exam practice collection · Question 31

Question 49 | Q01068

Which of the following is not JavaScript Data Types?

A. Undefined

B. Number

C. Boolean

D. Float

Hint

Track the value and type at each operation, applying the stated conversion, indexing or mathematical rule.

Answer D: Float is not a separate JavaScript primitive type.

WEB16 lists undefined, null, Boolean, Number, BigInt, String, and Symbol as primitives and explicitly states that Float is not a separate Number primitive type. Floating-point numeric values belong to Number. Undefined, Number, and Boolean are therefore valid type names in the offered set, leaving Float as the exclusion.

Why each choice is right or wrong

A - Incorrect: Undefined is explicitly listed as a JavaScript primitive type in WEB16.

B - Incorrect: Number is the JavaScript numeric primitive type that includes ordinary floating-point numeric values.

C - Incorrect: Boolean is explicitly listed as the primitive type for true and false values.

D - Correct: Float is not a separate JavaScript primitive type; ordinary floating-point values use Number.

Primary note proof

Study-note section WEB16

> JavaScript primitives are undefined, null, Boolean, Number, BigInt, String and Symbol; objects include arrays, functions and dates.

Study-note section WEB16

> Float is not a separate Number primitive type.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 47 | lines 18-33

> 4.5.1 JavaScript Data types
> A value in JavaScript is always of a certain type. In JavaScript, a variable can take one type at one moment and then another. This is called dynamic typing.
> - Number → represents integers and floating points. There are many operations we can perform on a number multiplication *, division /,

addition +, subtraction - and so on
- String → a string in JavaScript must be surrounded by quotes. We have three different quotes
1. Single quotes --- 'single'
2. Double quotes --- 'double'
3. Backticks -- `hello`. In a standard US keyboard, you can find the backticks above the tab key before the number 1 key.
Backticks allows to embed variables and expressions into a string by wrapping them with ${}
alert(`the result is ${1 + 2}`);
- Boolean → a boolean has two values true or false

Web Programming module | PDF page 48 | lines 2-5

- Objects → are used to store a key/value pair property. Objects are created using curly braces {}
- Arrays → are regular objects and used to store indexed values. Arrays are created by using square brackets []

Question sources

Web Programming practice questions · Question 1

Question 50 | Q01069

Which company developed JavaScript?

A. Netscape

B. Bell Labs

C. Sun Microsystems

D. IBM

Hint

Check exact language syntax, declaration rules and execution context before reasoning about the result.

Answer A: Netscape

WEB15 explicitly states that JavaScript originated at Netscape and distinguishes it from Java. Netscape is therefore the company named by the supplied note. None of Bell Labs, Sun Microsystems, or IBM is the origin identified for JavaScript. The Java distinction is especially relevant because the similar language names can encourage a wrong company association.

Why each choice is right or wrong

A - Correct: Netscape is explicitly identified in WEB15 as the company where JavaScript originated.

B - Incorrect: Bell Labs is not the JavaScript origin given in the complete study note.

C - Incorrect: The note distinguishes JavaScript from Java and identifies Netscape, not Sun Microsystems, as its origin.

D - Incorrect: IBM is not the company identified as JavaScript's origin in WEB15.

Primary note proof

Study-note section WEB15

> JavaScript originated at Netscape; it is distinct from Java and supports sophisticated applications through prototype-based objects and first-class functions.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 44 | lines 3-7

> 4.1 Introduction to JavaScript
> JavaScript (JS) is a lightweight, interpreted or compiled programming language. It is a single threaded, dynamic language, supporting object oriented, functional programming styles. Do not confuse JavaScript with the Java Programming language. The two-programming language have very different syntax, semantics, and use.

Question sources

Web Programming practice questions · Question 2

Question 51 | Q01070

Inside which HTML element do we put the JavaScript?

A. <script>

B. <head>

C. <meta>

D. <style>

Hint

Identify which elements a rule targets and distinguish selector syntax from declaration syntax.

Answer A: <script>

Page 44 says JavaScript uses the script tag, and p.45 shows the enclosed script block. Evidence: PDF p. 44, PDF p. 45, PDF p. 28.

Why each choice is right or wrong

A - Correct: Actual code-containing element.

B - Incorrect: A possible surrounding document section, not the script element.

C - Incorrect: Metadata element, not code container.

D - Incorrect: Embedded stylesheet element, not JavaScript container.

Primary note proof

Study-note section WEB15

> Use <script src="app.js"></script> for an external .js file; script content has no HTML closing-tag syntax inside its JavaScript source.

Study-note section WEB06

> <!DOCTYPE html> selects modern standards mode; <html> is the document root, <head> holds metadata, and <body> contains document content.

Study-note section WEB11

> An external sheet uses <link rel="stylesheet" href="styles.css"> in head; an internal sheet uses style; an inline declaration uses an element’s style attribute.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 44 | lines 30-33

> 4.2.1 JavaScript Syntax
> JavaScript is added to an HTML document in a similar fashion as that of CSS. The main difference is we use <script> tag instead of <link> tag.
> Here is the basic JavaScript syntax

Web Programming module | PDF page 45 | lines 2-8

> <script>
> // JavaScript code goes here
> </script>
> - Internal JavaScript is one way of including JavaScript using the script tag inside our HTML document. We can use the above syntax to include it anywhere in our document. The best place to include a JavaScript file is before the end of body tag </body>.

Web Programming module | PDF page 28 | lines 12-14

> 2. Embedded stylesheet
> This type of stylesheet should be used when a single document has a unique style. You define internal styles in the head section by using the <style> tag.

Question sources

Web Programming practice questions · Question 3

Question 52 | Q01071

Which of the following is correct about features of JavaScript?

A. It can not Handling dates and time.

B. JavaScript is a object-based scripting language.

C. JavaScript is not interpreter based scripting language.

D. All of the above

Hint

Track the value and type at each operation, applying the stated conversion, indexing or mathematical rule.

Answer B: JavaScript supports prototype-based objects.

WEB15 says JavaScript supports sophisticated applications through prototype-based objects and first-class functions, directly supporting B. WEB16 also includes dates among objects, refuting the claimed inability to handle dates and time. The broad denial of interpreted scripting is not a supported language definition. Since at least A is false, All cannot hold; B is the supported positive feature.

Why each choice is right or wrong

A - Incorrect: The note includes Date objects, so the claim that JavaScript cannot handle dates and time is false.

B - Correct: Prototype-based objects support the description of JavaScript as an object-based scripting language.

C - Incorrect: This blanket denial is not a supported feature definition; browser JavaScript runs as scripts through its runtime.

D - Incorrect: All fails because the date/time incapability claim is false, while the object-based feature is supported.

Primary note proof

Study-note section WEB15

> JavaScript originated at Netscape; it is distinct from Java and supports sophisticated applications through prototype-based objects and first-class functions.

Study-note section WEB16

> JavaScript primitives are undefined, null, Boolean, Number, BigInt, String and Symbol; objects include arrays, functions and dates.

Study-note section WEB-S05

> JavaScript implementations may interpret or compile source; interpretation and compilation are execution strategies rather than competing language identities.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 44 | lines 3-7

> 4.1 Introduction to JavaScript
> JavaScript (JS) is a lightweight, interpreted or compiled programming language. It is a single threaded, dynamic language, supporting object oriented, functional programming styles. Do not confuse JavaScript with the Java Programming language. The two-programming language have very different syntax, semantics, and use.

Question sources

Web Programming practice questions · Question 4

Question 53 | Q01072

Choose the correct JavaScript syntax to change the content of the following HTML code.

A. document.getElement ("letsfindcourse").innerHTML = "I am a letsfindcourse";

B. document.getElementById ("letsfindcourse").innerHTML = "I am a letsfindcourse";

C. document.getId ("letsfindcourse") = "I am a letsfindcourse";

D. document.getElementById ("letsfindcourse").innerHTML = I am a letsfindcourse;

Hint

Track which node is selected or created, and distinguish changing content from attaching a node.

Answer B: Use document.getElementById(...).innerHTML with a quoted string.

WEB20 identifies document.getElementById as the ID lookup and innerHTML as a descendant-markup replacement property. B combines the correct method spelling with a quoted string value. A and C invent lookup names; D lacks string quotes and cannot parse as the intended assignment. Execution still requires that the element exist, which should be checked in real code.

Why each choice is right or wrong

A - Incorrect: document.getElement is not the ID lookup method defined in WEB20.

B - Correct: The exact ID lookup and quoted innerHTML assignment are valid, assuming that the requested element exists.

C - Incorrect: document.getId is not the DOM method, and assigning directly to that call does not set element content.

D - Incorrect: The intended replacement text is unquoted, so the JavaScript assignment is syntactically invalid.

Primary note proof

Study-note section WEB20

document.getElementById("x") returns the matching element or null; querySelector(".item") returns the first match, and querySelectorAll returns a static NodeList.

Study-note section WEB20

innerHTML parses/replaces descendants, so += reparses/replaces the prior descendant content too and can destroy listeners/state.

Study-note section WEB16

Strings use either quote style, with appropriate escaping.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 52 | lines 10-20

4.10.1 Accessing HTML elements in JavaScript
In the DOM Api, there are different methods to get access to HTML elements. We will list the available methods here, but only the most recent methods are covered here.
- getElementById(id) returns an element with that specific ID
- getElmentsByClassName(class) returns elements with that specific class
getElementsByTagName(tag) returns elements with the given tag name
- querySelector(selector) → The Document method querySelector() returns the first Element within the document that matches the specified selector, or group of selectors. If no matches are found, null is returned.
element = document.querySelector(selectors);

Web Programming module | PDF page 47 | lines 24-28

- String → a string in JavaScript must be surrounded by quotes. We have three different quotes
1. Single quotes --- ‘single’
2. Double quotes --- ‘double’
3. Backticks -- `hello`. In a standard US keyboard, you can find the

Question sources

Web Programming practice questions · Question 5

Question 54 | Q01073

which of the following are advantages of JavaScript?

A. Less server interaction

B. Increased interactivity

C. Richer interfaces

D. All of the above

Hint

Separate event dispatch, handler registration and cancellation of the browser default action.

Answer D: All three are possible JavaScript benefits.

WEB01 assigns JavaScript programmable interactivity, and WEB21 describes browser checks that give immediate feedback. Such client work can avoid some server round trips, support richer controls, and increase interactivity. Each preceding option names a possible benefit rather than a guarantee of good implementation. The combined All choice therefore captures the full supported set.

Why each choice is right or wrong

A - Incorrect: Local client computation can avoid some requests, but this option states only one of the listed benefits.

B - Incorrect: JavaScript supplies programmable interactivity, but this is only part of the full supported set.

C - Incorrect: Programmable controls can provide richer interfaces, alongside the other possible benefits.

D - Correct: Reduced requests for local work, interactivity, and richer interfaces are all possible benefits of browser JavaScript.

Primary note proof

Study-note section WEB01

> HTML supplies structure/meaning; CSS controls presentation; JavaScript supplies programmable interactivity.

Study-note section WEB21

> Browser checks improve feedback; repeat validation and authorization on the server.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 44 | lines 9-19

> JavaScript is a scripting or programming language that allows us to implement complex features on web pages. JavaScript will enable us to display timely content updates, interactive maps, 2D/3D animated graphics etc. JavaScript is one of the three layers of web technologies which lets to add functionality to a web page. The three layers of web technologies are stacked together nicely, HTML will let's structure the webpage, CSS deals with the presentation of the web page and JavaScript the functionality.'
> What can JavaScript really do? It can
> - Stores values inside variables
> - Perform operations on pieces of texts
> - Run a code in response to events

Question sources

Web Programming practice questions · Question 6

Question 55 | Q01074

Which statement is true about modern JavaScript and browser capabilities?

A. Browser scripts cannot freely read or write arbitrary client files without an appropriate API and permission

B. JavaScript cannot be used for networking applications

C. JavaScript doesn't have any multi-threading or multiprocessor capabilities

D. All of the above

Hint

Identify the execution side and communication pattern, keeping runtime, transport, data format and callback roles distinct.

Answer A: Browser scripts cannot freely read or write arbitrary client files without an appropriate API and permission

Modern JavaScript can make network requests and can use workers for concurrent computation. Browser scripts may also access selected files or devices through permission-based APIs, so their restriction is on unrestricted access, not all file interaction. The first choice states that boundary precisely. The two remaining capability denials are false, which also makes All of the above false. The answer distinguishes host permissions from the expressive power of the language.

Why each choice is right or wrong

A - Correct: The sandbox does not allow arbitrary unrestricted file access.

B - Incorrect: Browser network APIs and server runtimes refute this denial.

C - Incorrect: Workers provide concurrent computation, refuting this absolute denial.

D - Incorrect: The networking and concurrency denials are false.

Primary note proof

Study-note section WEB01

> Browser scripts are sandboxed, but may access selected files/devices through permission-based APIs.

Study-note section WEB22

> Browser workers support concurrent computation, but DOM access normally remains on the page’s main thread.

Study-note section WEB34

> With fetch, await fetch(url) obtains a response, then check response.ok and parse await response.json().

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 44 | lines 3-7

> 4.1 Introduction to JavaScript
> JavaScript (JS) is a lightweight, interpreted or compiled programming language. It is a single threaded, dynamic language, supporting object oriented, functional programming styles. Do not confuse JavaScript with the Java Programming language. The two-programming language have very different syntax, semantics, and use.

Web Programming module | PDF page 92 | lines 6-14

> b. Node.js
> Node is an open source, cross platform runtime environment that allows developers to create server-side tools and applications in JavaScript. As an asynchronous event-driven JavaScript runtime, Node.js is designed to build scalable network applications.
> Benefits of using Node
> 1. Performance
> 2. Uses plain old JavaScript
> 3. Thousands of reusable packages
> 4. Portable

Question sources

Web Programming practice questions · Question 7

Question 56 | Q01075

Microsoft has developed a popular HTML editor called?

A. Dreamweaver

B. FrontPage

C. HomeSite

D. Macromedia

Hint

Identify the role requested and compare it with the definitions and constraints in the cited passages.

Answer B: FrontPage

WEB02 explicitly identifies Microsoft FrontPage and Macromedia HomeSite5 as historical editors. Therefore FrontPage is the Microsoft editor requested. HomeSite belongs to the other attribution given in the note; Macromedia is a company name rather than the Microsoft product. This is historical product recognition, not a current editor recommendation.

Why each choice is right or wrong

A - Incorrect: Dreamweaver is not the Microsoft editor identified in the supplied historical attribution.

B - Correct: WEB02 explicitly identifies FrontPage as the historical Microsoft editor.

C - Incorrect: HomeSite5 is attributed to Macromedia rather than Microsoft in the note.

D - Incorrect: Macromedia is the company in the HomeSite attribution, not the requested Microsoft editor name.

Primary note proof

Study-note section WEB02

> Historical editor-name items refer to Microsoft FrontPage and Macromedia HomeSite5, not languages or required modern tools.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 10 | lines 22-26

> HTML is composed of several tags. HTML Document:-
> - A text document containing markup tags
> - The tags tell the browser how to display the document
> - Should have an .htm or .html file name extension
> - Can be created using a simple text editor

Question sources

Web Programming practice questions · Question 8

Question 57 | Q01076

HomeSite 5 is a well-liked HTML and JavaScript editor from Macromedia.

A. True

B. False

C. Can be true or false

D. Cannot say

Hint

Identify the role requested and compare it with the definitions and constraints in the cited passages.

Answer A: True as a historical product attribution.

WEB02 explicitly identifies Macromedia HomeSite5 as a historical editor. That supports the product-and-company attribution in the statement. Well-liked is an informal popularity description, not a measurable language or browser property supplied here. On the factual historical attribution being tested, True is the supported choice; the note does not recommend the product as a current required editor.

Why each choice is right or wrong

A - Correct: The historical attribution to Macromedia HomeSite5 is explicitly supported by WEB02.

B - Incorrect: False contradicts the product-and-company attribution given in the complete note.

C - Incorrect: The historical attribution is settled in the note rather than varying between true and false.

D - Incorrect: The note supplies the historical attribution needed to answer the factual part of the statement.

Primary note proof

Study-note section WEB02

> Historical editor-name items refer to Microsoft FrontPage and Macromedia HomeSite5, not languages or required modern tools.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 10 | lines 22-26

> HTML is composed of several tags. HTML Document:-
> - A text document containing markup tags
> - The tags tell the browser how to display the document
> - Should have an .htm or .html file name extension
> - Can be created using a simple text editor

Question sources

Web Programming practice questions · Question 9

Question 58 | Q01077

Outside strings and comments, in a context where token boundaries are preserved and line breaks cannot trigger different parsing or automatic semicolon insertion, which single option gives the complete selection of whitespace that can be ignored?

A. spaces

B. tabs

C. newlines

D. All of the above

Hint

Check exact language syntax, declaration rules and execution context before reasoning about the result.

Answer D: All of the above

JavaScript normally uses whitespace to separate tokens. In the explicitly restricted context, extra spaces, tabs and newlines can all be removed without changing the program's meaning. The exclusions matter: whitespace inside strings is data, and line breaks can change parsing in other contexts. All of the above is therefore the complete single choice here; each individual whitespace kind is eligible but would be an incomplete selection.

Why each choice is right or wrong

A - Incorrect: Spaces qualify here, but this choice omits the other qualifying whitespace.

B - Incorrect: Tabs qualify here, but this choice is incomplete.

C - Incorrect: Newlines qualify under the explicit parsing restriction, but this choice is incomplete.

D - Correct: This includes all three qualifying whitespace kinds in the stated context.

Primary note proof

Study-note section WEB15

> Whitespace usually separates tokens but newlines can affect parsing, especially after return.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 45 | lines 2-11

> <script>
> // JavaScript code goes here
> </script>
> - Internal JavaScript is one way of including JavaScript using the script tag inside our HTML document. We can use the above syntax to include it anywhere in our document. The best place to include a JavaScript file is before the end of body tag </body>.
> - <script>

```
console.log(“Hello world”)
</script>
```

Question sources

Web Programming practice questions · Question 10

Question 59 | Q01078

JavaScript is designed for following purpose -

A. to style HTML pages

B. to execute Queries related to databases on a server

C. to add interactivity to html pages

D. All of the above

Hint

Identify the role requested and compare it with the definitions and constraints in the cited passages.

Answer C: to add interactivity to html pages

The module assigns JavaScript interactive features/functionality, HTML structure and CSS presentation (p.44). Evidence: PDF p. 44, PDF p. 60.

Why each choice is right or wrong

A - Incorrect: Styling is principally CSS in this division.

B - Incorrect: Server database query execution is not the stated browser JavaScript purpose.

C - Correct: Matches interactive feature role.

D - Incorrect: The module role distinction prevents all three being its stated primary design purpose.

Primary note proof

Study-note section WEB01

> HTML supplies structure/meaning; CSS controls presentation; JavaScript supplies programmable interactivity.

Study-note section WEB01

> PHP, Python, JSP/Java and ASP.NET applications generate server responses and access databases; C# is commonly used with ASP.NET.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 44 | lines 9-19

> JavaScript is a scripting or programming language that allows us to implement complex features on web pages. JavaScript will enable us to display timely content updates, interactive maps, 2D/3D animated graphics etc. JavaScript is one of the three layers of web technologies which lets to add functionality to a web page. The three layers of web technologies are stacked together nicely, HTML will let's structure the webpage, CSS deals with the presentation of the web page and JavaScript the functionality.'
> What can JavaScript really do? It can
> - Stores values inside variables
> - Perform operations on pieces of texts
> - Run a code in response to events

Web Programming module | PDF page 60 | lines 11-16

> Client-side scripting is the glamorous, eye-catching part of Web development. In contrast, server-side scripting is invisible to the user. Server-side Web scripting is mostly about connecting Web sites to back-end servers, such as databases. This enables the following types of two-way communication:
> ➢ Server to client: Web pages can be assembled from back end-server output.
> ➢ Client to server: Customer-entered information can be acted upon.

Question sources

Web Programming practice questions · Question 11

Question 60 | Q01079

What will be the output of the following JavaScript code?
var string1 = "Letsfindcourse"; var intvalue = 30; alert (string1 + intvalue);

A. Letsfindcourse 30

B. 30

C. Letsfindcourse30

D. Exception

Hint

Track the value and type at each operation, applying the stated conversion, indexing or mathematical rule.

Answer C: Letsfindcourse30

WEB16 states that + can concatenate when a string is involved. Here string1 is Letsfindcourse and intvalue is number 30, so the numeric operand is represented as text and appended to the string. Neither operand contains a trailing or leading space. The alert therefore displays Letsfindcourse30, not the spaced version.

Why each choice is right or wrong

A - Incorrect: The code contains no separator space between the string and number, so this adds an unwritten character.

B - Incorrect: The original string is retained by concatenation rather than discarded.

C - Correct: The string operand triggers concatenation, appending 30 directly with no extra space.

D - Incorrect: String-plus-number concatenation is valid JavaScript and does not throw merely because the operand types differ.

Primary note proof

Study-note section WEB16

> + can concatenate when a string is involved; arithmetic / converts ordinary numeric strings.

Study-note section WEB22

> alert displays information, confirm returns a Boolean, and prompt requests text or returns null on cancellation.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 47 | lines 21-28

> - Number → represents integers and floating points. There are many
> operations we can perform on a number multiplication *, division /,
> addition +, subtraction - and so on
> - String → a string in JavaScript must be surrounded by quotes. We have
> three different quotes
> 1. Single quotes --- ‘single’
> 2. Double quotes --- ‘double’
> 3. Backticks -- `hello`. In a standard US keyboard, you can find the

Web Programming module | PDF page 46 | lines 19-20

> var name = prompt("Enter your name: ");
> alert("Hello " + name);

Web Programming module | PDF page 48 | lines 23-33

> 4.5.3 Data Type Conversion
> Type conversations are a very common occurrence in JavaScript. Operators and
> functions converts the values given to them to the right type. Mathematical operations
> convert value to numbers.
> - String conversion → we can use String(value) function to convert a value
> to string
> - Numeric Conversion → happens automatically in mathematical operations
> and expression. We can use the Number(value) function to explicitly
> convert a value to a number:

```
let str = "123";
let num = Number(str);
```

Question sources

Web Programming practice questions · Question 12

Question 61 | Q01080

Among the following, which one is a ternary operator in JavaScript?

A. #

B. ::

C. &:

D. ?:

Hint

Track the value and type at each operation, applying the stated conversion, indexing or mathematical rule.

Answer D: ?:

The module explicitly gives condition ? value1 : value2 as the ternary operator syntax (p.50). Evidence: PDF p. 50.

Why each choice is right or wrong

A - Incorrect: Not the shown syntax.

B - Incorrect: Double colon is not the shown syntax.

C - Incorrect: Ampersand-colon is not the shown syntax.

D - Correct: Question mark and colon match the shown conditional expression.

Primary note proof

Study-note section WEB17

> A condition ? x : y chooses one branch.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 50 | lines 15-18

> Ternary Operators:
> Ternary operator is represented by a question mark “?”. We can use ternary
> operator to perform conditional operations like if-else statement
> let result = condition ? value1 : value2;

Question sources

Web Programming practice questions · Question 13

Question 62 | Q01081

Which option names the three clauses of the general JavaScript for-loop form, regardless of how the loop variable changes?

A. the initialization, the Incrementation, and update

B. the initialization, the test, and the update

C. the initialization, the test, and Incrementation

D. All of the above

Hint

Identify the role requested and compare it with the definitions and constraints in the cited passages.

Answer B: the initialization, the test, and the update

The general form is for(initialization; test; update). Initialization runs once, the test decides whether another iteration starts, and the update follows each completed body. An update can increment, decrement or perform another expression. Therefore an increment-only description is narrower than the general clause name. The first alternative also omits the test, so the aggregate alternative is incorrect.

Why each choice is right or wrong

A - Incorrect: Incrementation and update overlap, and the condition/test clause is missing.

B - Correct: These are the three general clause names, independent of the particular update expression.

C - Incorrect: Incrementing is one possible update; it is not the general name for a clause that may instead decrement or do something else.

D - Incorrect: The first alternative omits the test, and the increment-only alternative is not the general form.

Primary note proof

Study-note section WEB19

> for(initialization;test;update) initializes once, checks before each iteration, then updates after each body.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 50 | lines 30-33

> - For loop → syntax
> for (begin; condition; step) {
> // ... loop body ...
> }

Question sources

Web Programming practice questions · Question 14

Question 63 | Q01082

Which JavaScript operators compare equality and inequality without type coercion, while == and != remain available for coercive comparison?

A. It uses bitwise checking

B. === and !==

C. It uses equals() and notequals() instead

D. It uses equalto()

Hint

Track the value and type at each operation, applying the stated conversion, indexing or mathematical rule.

Answer B: === and !==

JavaScript supports both loose and strict equality operators. == and != can coerce types, while === and !== compare without that coercion. The strict operators are alternatives with different comparison rules rather than replacements that remove the loose operators from the language. Bitwise checking and the invented equality function names do not identify these language operators, so the corrected question has a single supported answer.

Why each choice is right or wrong

A - Incorrect: Bitwise operations are different from strict equality comparisons.

B - Correct: These are the strict equality and inequality operators.

C - Incorrect: These function names are not the language's strict comparison operators.

D - Incorrect: This is not the language's strict equality operator.

Primary note proof

Study-note section WEB17

> JavaScript has ==/!= with coercion and ===/!== without coercion; strict operators do not replace or remove the loose ones.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 49 | lines 2-8

> 4.6 Arithmetic and Logical Operators in JavaScript
> Arithmetic operators are used to perform mathematical operations between numeric operands. We can perform different operations on numbers, like addition, subtraction multiplication. Here is the list of arithmetic operators we can use on numbers

Logical Operators:
In JavaScript, the logical operators are used to combine two or more conditions.
JavaScript provides the following logical operators.

Question sources

Web Programming practice questions · Question 15

Question 64 | Q01083

What should appear at the very end of your JavaScript?The <script language="javascript"> tag

A. <script>

B. </script>

C. </script language="javascript">

D. All of the above

Hint

Check exact language syntax, declaration rules and execution context before reasoning about the result.

Answer B: </script>

The script block shown on p.45 ends with </script>; attributes belong in the opening tag.
Evidence: PDF p. 45.

Why each choice is right or wrong

A - Incorrect: Opening tag does not close the block.

B - Correct: Exact closing delimiter.

C - Incorrect: The demonstrated closing tag has no attributes.

D - Incorrect: Only B matches the actual closing delimiter.

Primary note proof

Study-note section WEB15

> Use <script src="app.js"></script> for an external .js file; script content has no HTML closing-tag syntax inside its JavaScript source.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 45 | lines 2-4

```
<script>
// JavaScript code goes here
</script>
```

Question sources

Web Programming practice questions · Question 16

Question 65 | Q01084

Which listed item is a directive string rather than a JavaScript keyword that introduces a statement form? Treat with as its legacy non-strict form.

A. if

B. with

C. debugger

D. use strict

Hint

Check exact language syntax, declaration rules and execution context before reasoning about the result.

Answer D: use strict

A quoted "use strict" in a directive prologue selects strict semantics. It is not a reserved keyword introducing a special statement form, although the quoted text is syntactically an expression statement. By contrast, if introduces a conditional statement, with names a legacy scope-lookup statement forbidden in strict mode, and debugger names a statement that can invoke a debugger facility.

Why each choice is right or wrong

A - Incorrect: if names the conditional statement form, so it is not the requested non-keyword directive.

B - Incorrect: with names a statement form, even though strict mode restricts its use.

C - Incorrect: debugger names a JavaScript statement form rather than a directive string.

D - Correct: "use strict" is a directive string, not a reserved statement keyword; technically its quoted form is an expression statement.

Primary note proof

Study-note section WEB15

> “use strict” is a directive string, not a reserved statement keyword.

Study-note section WEB-S05

> An if statement conditionally executes code.

Study-note section WEB-S05

> The legacy with statement temporarily extends name lookup and is forbidden in strict mode.

Study-note section WEB-S05

> A debugger statement may invoke an active debugging facility.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 49 | lines 9-14

> 4.7 Control Structures (Conditional and Looping Statements)
> The “if” statement:
> The if(...) statement evaluates a condition in parentheses and, if the result is true, executes a block of code.
> let age = 20;
> if (age > 18) alert('You are right!');

Question sources

Web Programming practice questions · Question 17

Question 66 | Q01086

Which symbol is used for comments in JavaScript?

A. \\

B. //

C. * *\

D. * */

Hint

Check exact language syntax, declaration rules and execution context before reasoning about the result.

Answer B: //

The comment rule explicitly uses // for a single line and /* */ for multiline (p.46). All alternatives except B reverse slash direction. Evidence: PDF p. 46.

Why each choice is right or wrong

A - Incorrect: Backslashes are not the rule.

B - Correct: Exact single-line delimiter.

C - Incorrect: Backslash-star is not forward-slash-star.

D - Incorrect: Incorrect opening backslash, even though closing portion resembles a block end.

Primary note proof

Study-note section WEB15

> // comments end at line end; /* */ span a block.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 46 | lines 4-14

4.3 JavaScript Comments
As with HTML and CSS, it is possible to write comments into a JavaScript code that will be ignored by the browser, and exist to provide instructions to fellow developers on how the code works. There are two types of JavaScript comments
- A single line comment written after a double forward slash (//)
// I am a single line comment
- A multiline comment is written between the strings (/* */)
/*
I am
a multi line comment
*/

Question sources

Web Programming practice questions · Question 19

Question 67 | Q01087

Which of them is not the looping structures in JavaScript?

A. for

B. while

C. forwhich

D. dowhile

Hint

Identify the role requested and compare it with the definitions and constraints in the cited passages.

Answer C: forwhich is not a JavaScript loop form.

WEB19 defines for, while, and do...while loops. The option dowhile names that last construct informally; its actual source spelling is do ... while. forwhich is not one of the language's loop forms. Thus C is the intended non-loop name without treating informal collapsed words as executable source tokens.

Why each choice is right or wrong

A - Incorrect: for is explicitly a JavaScript loop form with initialization, test, and update clauses.

B - Incorrect: while is explicitly a loop that tests before its body.

C - Correct: forwhich is not a defined JavaScript loop form in the note.

D - Incorrect: Read as the loop name do...while, this is the supported at-least-once construct, not a literal token.

Primary note proof

Study-note section WEB19

for(initialization;test;update) initializes once, checks before each iteration, then updates after each body.

Study-note section WEB19

while checks before its body; do...while executes at least once.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 50 | lines 19-33

Loops
Loops are a way to repeat the same code multiple times.
- While loop → while loop has the following syntax
while (condition) {
//"loop body"
}
- Do-while loop → do while loops are very similar to that of while loops, but
in do while even if the condition is false there is always on execution
do{
//"loop body"
} while (condition);
- For loop → syntax
for (begin; condition; step) {
// ... loop body ...
}

Question sources

Web Programming practice questions · Question 20

Question 68 | Q01088

Which operations evaluate to undefined in ordinary JavaScript? A variable read means a direct expression read, not typeof. Select all that apply.

A. Directly reading an undeclared variable

B. Reading a declared var variable before it has been assigned a value

C. Reading a missing property of an ordinary object

D. All of the above

Hint

Track the value and type at each operation, applying the stated conversion, indexing or mathematical rule.

Answer B, C: Reading a declared var variable before it has been assigned a value; Reading a missing property of an ordinary object

An unassigned declared var variable has the value undefined, and an absent ordinary object property also evaluates to undefined. A direct read of an undeclared variable instead normally throws ReferenceError. The question excludes typeof and uses var to avoid a block-scoped temporal-dead-zone case. Both B and C must be selected; All of the above is false because it would include the undeclared-variable read.

Why each choice is right or wrong

A - Incorrect: A direct undeclared-variable read throws ReferenceError.

B - Correct: An unassigned var binding evaluates to undefined.

C - Correct: An absent ordinary object property evaluates to undefined.

D - Incorrect: This includes A, which throws instead of producing undefined.

Primary note proof

Study-note section WEB16

> An unassigned declared variable or missing ordinary object property evaluates to undefined; directly reading an undeclared variable usually throws ReferenceError.

Study-note section WEB15

> var has function/global scope; let/const are block-scoped.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 48 | lines 6-21

> 4.5.2 Variable declaration in JavaScript
> Variables are used to store this information. A variable is a “named storage” for data. We can use variables to store goodies, visitors, and other data. We have three ways of creating variables in JavaScript
> - Using the let keyword → the following statement declares a variable
> let message;
> now we can put values using the assignment operator (=)
> - Using var keyword → we can also declare variable using the var keyword in a similar fashion as let. There is a subtle difference between declaring a variable using var and let. Variables declared with var are hoisted where as those declared with let are not. The other difference between var and let is variables declared with let has a block level scope unlike that of var. Variables declared with var have function level scope
> - Using const keyword → to declare a constant variable we can use const instead of var and let. Variables declared with const can not be changed once they are declared.

Question sources

Web Programming practice questions · Question 21

Question 69 | Q01089

What are the types of Pop up boxes available in JavaScript?

A. Alert

B. Prompt

C. Confirm

D. All of the above

Hint

Distinguish the browser object or dialog role from the kind of response it collects.

Answer D: All of the above

Prompt shows an input modal, confirm a choice modal (p.46), and alert an informational popup (p.47). Thus all three listed dialog forms are covered. Evidence: PDF p. 46, PDF p. 47.

Why each choice is right or wrong

A - Incorrect: A covered popup, but not the full list.

B - Incorrect: A covered input popup.

C - Incorrect: A covered confirmation popup.

D - Correct: Combines the three documented forms.

Primary note proof

Study-note section WEB-S03

> alert(message), confirm(message) and prompt(message) all present a supplied message.

Study-note section WEB22

> alert displays information, confirm returns a Boolean, and prompt requests text or returns null on cancellation.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 46 | lines 16-25

> Accepting user input in JavaScript actually is not a difficult task. JavaScript has a function called prompt, which is used to accept input from the user. But for the result to be useful for us, it has to be stored in a variable. Here is a simple example
> var name = prompt("Enter your name: ");
> alert("Hello " + name);
> ➢ Prompt will show a modal windows with a text message, an input field for the

visitor, and the buttons OK/Cancel
➢ We can also use confirm to get information from a user:- the function confirm shows a modal window with a question and two buttons: OK and Cancel
The result is true if OK is pressed and false otherwise

Web Programming module | PDF page 47 | lines 2-2

2. Alert: shows a browser pop up with the information inside the parenthesis

Question sources

Web Programming practice questions · Question 22

Question 70 | Q01090

what is the disadvantage of using innerHTML in JavaScript?

A. Content cannot be replaced everywhere

B. We can use like "appending to innerHTML"

C. Even if you use +=like "innerHTML = innerHTML + 'html'" still the old content is replaced by html

D. The entire innerHTML content is not re-parsed and build into elements, therefore its not slower

Hint

Track which node is selected or created, and distinguish changing content from attaching a node.

Answer C: Even innerHTML += reparses and replaces descendant nodes.

WEB20 says innerHTML parses and replaces descendants. The += form reads the old markup string, concatenates new markup, and assigns the entire result, so prior descendants are recreated rather than preserved. Existing node listeners or state can be lost. C captures that disadvantage; D explicitly denies the reparsing behavior and is false.

Why each choice is right or wrong

A - Incorrect: This vague restriction is not the specific innerHTML drawback established here.

B - Incorrect: Using apparent append syntax is possible; the disadvantage is that it still replaces and reparses existing descendants.

C - Correct: The += assignment reparses and replaces prior descendant content, potentially losing node listeners and state.

D - Incorrect: The note says the entire assigned markup is reparsed; this option incorrectly denies that mechanism.

Primary note proof

Study-note section WEB20

innerHTML parses/replaces descendants, so += reparses/replaces the prior descendant content too and can destroy listeners/state.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 52 | lines 3-9

4.10 JavaScript DOM (Document object Model)
The Document Object Model (DOM) is the data representation of the objects that comprise the structure and content of a document on the web. The Document Object Model (DOM) is a programming interface for web documents. It represents the page so that programs can change the document structure, style, and content. The DOM represents the document as nodes and objects; that way, programming languages can interact with the page.

Question sources

Web Programming practice questions · Question 23

Question 71 | Q01091

What are the two basic groups of dataypes in JavaScript?

A. Primitive

B. Reference types.

C. All of the above

D. None of the above

Hint

Track the value and type at each operation, applying the stated conversion, indexing or mathematical rule.

Answer C: Both primitive and object/reference groups.

WEB16 lists primitive values and contrasts them with objects such as arrays, functions, and dates. In the informal two-group teaching model, those object values are often called reference types. A and B each name only one group; All combines the two categories requested. This does not make Array a separate primitive or replace the detailed primitive-type list.

Why each choice is right or wrong

A - Incorrect: Primitive names one of the two requested groups but omits the object/reference group.

B - Incorrect: Reference types informally names the object group but omits the primitive group.

C - Correct: All combines primitives and the informal object/reference group, supplying both categories requested.

D - Incorrect: The note explicitly distinguishes primitives from objects, so the two-group classification is available.

Primary note proof

Study-note section WEB16

> JavaScript primitives are undefined, null, Boolean, Number, BigInt, String and Symbol; objects include arrays, functions and dates.

Study-note section WEB16

> Arrays are objects, even though informal texts call them an array data type.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 47 | lines 18-33

> 4.5.1 JavaScript Data types
> A value in JavaScript is always of a certain type. In JavaScript, a variable can take one type at one moment and then another. This is called dynamic typing.
> - Number → represents integers and floating points. There are many operations we can perform on a number multiplication *, division /, addition +, subtraction - and so on
> - String → a string in JavaScript must be surrounded by quotes. We have three different quotes
> 1. Single quotes --- 'single'
> 2. Double quotes --- 'double'
> 3. Backticks -- `hello`. In a standard US keyboard, you can find the backticks above the tab key before the number 1 key.
> Backticks allows to embed variables and expressions into a string by wrapping them with ${}
> alert(`the result is ${1 + 2}`);
> - Boolean → a boolean has two values true or false

Web Programming module | PDF page 48 | lines 2-5

> - Objects → are used to store a key/value pair property. Objects are created using curly braces {}
> - Arrays → are regular objects and used to store indexed values. Arrays are created by using square brackets []

Question sources

Web Programming practice questions · Question 24

Question 72 | Q01092

Which of the following are the errors in JavaScript?

A. Load time errors

B. Run time errors:

C. Logical Errors:

D. All of the above

Hint

Check exact language syntax, declaration rules and execution context before reasoning about the result.

Answer D: All three broad error categories.

WEB19 distinguishes parse-time syntax errors, runtime thrown errors, and logical errors. Interpreting load time errors as the question's broad label for parse/load failures, all three listed categories are valid. They differ in when and how failure appears: parsing may prevent execution, runtime errors occur during execution, and logical errors can produce incorrect results without throwing.

Why each choice is right or wrong

A - Incorrect: Parse or load failures are a valid broad error category, but this option omits the other listed categories.

B - Incorrect: Thrown execution errors are runtime errors, but they are only one of the listed categories.

C - Incorrect: Logical errors can produce wrong results without throwing, but they are not the only error category.

D - Correct: All covers the broad parse/load, runtime, and logical-error categories distinguished in the note.

Primary note proof

Study-note section WEB-S05

> A syntax error prevents source from being parsed successfully.

Study-note section WEB-S05

> A runtime error arises while executing a program.

Study-note section WEB-S05

> A logical error is a defect in the algorithm or expression that can produce an incorrect result without throwing an exception.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 54 | lines 10-19

4.10.4 Handling Exception in JavaScript
There's a syntax construct try...catch that allows us to "catch" errors so the script can, instead of dying, do something more reasonable.
The "try...catch" syntax
The try...catch construct has two main blocks: try, and then catch:

```
try {
// code...
} catch (err) {
// error handling
}
```

Question sources

Web Programming practice questions · Question 25

Question 73 | Q01093

Which JavaScript function capability is illustrated by storing a function in a variable and passing it as an argument?

A. First-class functions

B. Functions restricted to class-member calls

C. Functions restricted to one fixed call site

D. All of the above

Hint

Check exact language syntax, declaration rules and execution context before reasoning about the result.

Answer A: First-class functions

JavaScript functions can be stored and passed as values. This is the first-class-function capability: a function can be assigned to a variable and supplied as an argument. Functions are not restricted to class-member invocation or one fixed call site. Those restrictions conflict with the stated ability to pass a function value, so the aggregate alternative is also false.

Why each choice is right or wrong

A - Correct: Storing and passing a function as a value is the first-class-function capability.

B - Incorrect: A function value can be stored and passed outside a class-member call; JavaScript does not impose this restriction.

C - Incorrect: Passing a function value allows its use at other call sites, contradicting the proposed fixed-site restriction.

D - Incorrect: The restrictions in the other two alternatives conflict with first-class function values, so the aggregate is false.

Primary note proof

Study-note section WEB19

function f(x){return x*2;} has a parameter and returns a value; functions can be passed/stored like other values.

Study-note section WEB15

JavaScript originated at Netscape; it is distinct from Java and supports sophisticated applications through prototype-based objects and first-class functions.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 44 | lines 4-7

JavaScript (JS) is a lightweight, interpreted or compiled programming language. It is a single threaded, dynamic language, supporting object oriented, functional programming styles. Do not confuse JavaScript with the Java Programming language. The two-programming language have very different syntax, semantics, and use.

Web Programming module | PDF page 51 | lines 18-30

4.9 JavaScript Functions
Functions are the main “building blocks” of the program. They allow the code to be called many times without repetition. To create a function, we can use a function declaration.
function showCSMessage() {
alert('Hello CS Students!');
}
To create a function, first we use the function keyword then the function name.
There are times when we remove the function name. This type Functions without a function name are called anonyms functions.
After the function name we optionally put parameters in between the parenthesis, if we don’t have parameters, we always have to put the empty parenthesis and then finally the block of code to be executed.

Question sources

Web Programming practice questions · Question 26

Question 74 | Q01094

Which exact name is not a standard screen property in a normal browser page?

A. availHeight

B. colorsDepth

C. availWidth

D. colorDepth

Hint

Distinguish the browser object or dialog role from the kind of response it collects.

Answer B: colorsDepth

JavaScript property names are case-sensitive. The standard names are availHeight, availWidth and colorDepth, all with the shown camelCase spelling. The distractor colorsDepth has an extra s and is not the standard color-depth property. The valid names use their exact case-sensitive spelling.

Why each choice is right or wrong

A - Incorrect: This is the exact available-height property name.

B - Correct: The extra s makes this different from colorDepth.

C - Incorrect: This is the exact available-width property name.

D - Incorrect: This is the exact color-depth property name.

Primary note proof

Study-note section WEB22

> screen.availHeight, screen.availWidth and screen.colorDepth have exact camelCase spelling; ColorsDepth is not the property.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 56 | lines 26-30

> Window Size
> Two properties can be used to determine the size of the browser window.
> Both properties return the sizes in pixels:
> window.innerHeight - the inner height of the browser window (in pixels)
> window.innerWidth - the inner width of the browser window (in pixels)

Question sources

Web Programming practice questions · Question 27

Question 75 | Q01095

JavaScript string using double quotes is exactly the same as a string using single quotes?

A. True

B. False

Hint

Track the value and type at each operation, applying the stated conversion, indexing or mathematical rule.

Answer A: True

The module lists single and double quotes as two valid ways to surround strings (p.47). For identical content requiring no different escaping, they represent the same string value. Evidence: PDF p. 47.

Why each choice is right or wrong

A - Correct: Correct for the same content under the stated assumption.

B - Incorrect: No difference in value solely from the quote choice is described.

Primary note proof

Study-note section WEB16

> Strings use either quote style, with appropriate escaping.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 47 | lines 24-31

> - String → a string in JavaScript must be surrounded by quotes. We have
> three different quotes
> 1. Single quotes --- ‘single’
> 2. Double quotes --- ‘double’
> 3. Backticks -- `hello`. In a standard US keyboard, you can find the
> backticks above the tab key before the number 1 key.
> Backticks allows to embed variables and expressions into a string
> by wrapping them with ${}

Question sources

Web Programming practice questions · Question 28

Question 76 | Q01096

What does this JavaScript output?
var a = "20";
var b = a = 30;
document.write(a + b);

A. Error in Script

B. '20'30

C. 2030

D. 60

Hint

Track the value and type at each operation, applying the stated conversion, indexing or mathematical rule.

Answer D: 60

Assignment first stores the Number 30 in a, replacing its previous string value, and then assigns that same Number to b. At the addition, both operands are therefore numeric thirty. Their sum is sixty, which document.write emits. The choice supplies the computed result rather than preserving the incorrect fifty. String concatenation does not occur because the original string no longer remains in either operand.

Why each choice is right or wrong

A - Incorrect: The assignments and addition are valid JavaScript.

B - Incorrect: The original string has been replaced and quotes are not emitted.

C - Incorrect: Neither operand is the string twenty when addition occurs.

D - Correct: Both operands are Number 30, giving the supplied numeric sum.

Primary note proof

Study-note section WEB17

> var a="20"; var b=a=30; assigns Number 30 to both, so a+b is 60, not 50.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 48 | lines 10-13

> - Using the let keyword → the following statement declares a variable
> let message;
> now we can put values using the assignment operator (=)
> - Using var keyword → we can also declare variable using the var keyword

Web Programming module | PDF page 47 | lines 21-23

- Number → represents integers and floating points. There are many operations we can perform on a number multiplication *, division /, addition +, subtraction - and so on

Web Programming module | PDF page 47 | lines 3-9

3. The write() method
- The write() method writes HTML expressions or JavaScript code to a document.
- The write() method is mostly used for testing: If it is used after an HTML document is fully loaded, it will delete all existing HTML.
Usage:
document.write(expr)

Question sources

Web Programming practice questions · Question 29

Question 77 | Q01097

What is divide by 0 in JavaScript?
var a = 10;var b = 0;document.write(a/b);

A. Nothing is printed

B. 0 is printed

C. Infinity is printed

D. Some Garbage Value

Hint

Track the value and type at each operation, applying the stated conversion, indexing or mathematical rule.

Answer C: Infinity is printed.

WEB16 states that a nonzero Number divided by zero produces signed Infinity. Here a is positive 10 and b is positive zero, so a/b yields positive Infinity. document.write converts that value to its displayed text. This is not the 0/0 case, which produces NaN, and ordinary Number division does not yield an arbitrary garbage value.

Why each choice is right or wrong

A - Incorrect: The expression evaluates to Infinity and document.write displays its text, so output is not empty.

B - Incorrect: Dividing positive ten by zero does not produce zero under JavaScript Number arithmetic.

C - Correct: A positive nonzero Number divided by positive zero yields Infinity, which is printed.

D - Incorrect: JavaScript defines this result as Infinity rather than an unspecified garbage value.

Primary note proof

Study-note section WEB16

> "abc"/"def" produces NaN; nonzero Number divided by zero produces signed Infinity, while 0/0 produces NaN.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 47 | lines 21-23

> - Number → represents integers and floating points. There are many operations we can perform on a number multiplication *, division /, addition +, subtraction - and so on

Web Programming module | PDF page 49 | lines 2-5

> 4.6 Arithmetic and Logical Operators in JavaScript
> Arithmetic operators are used to perform mathematical operations between numeric operands. We can perform different operations on numbers, like addition, subtraction multiplication. Here is the list of arithmetic operators we can use on numbers

Question sources

Web Programming practice questions · Question 30

Question 78 | Q01098

Which of the following function of Array object applies a function simultaneously against two values of the array (from right-to-left) as to reduce it to a single value?

A. pop()

B. reduce()

C. push()

D. reduceRight()

Hint

Track the value and type at each operation, applying the stated conversion, indexing or mathematical rule.

Answer D: reduceRight(), applied sequentially from right to left.

WEB18 distinguishes reduce from reduceRight by traversal direction. reduceRight combines an accumulator with each element from right to left, giving the single accumulated result described. The stem's simultaneously is inaccurate: callbacks are sequential, not parallel. Pop and push change the array's end, while reduce processes left to right. D uniquely matches the intended directional reduction.

Why each choice is right or wrong

A - Incorrect: pop removes the last item and does not repeatedly combine items into an accumulated result.

B - Incorrect: reduce combines left to right, contrary to the direction specified in the question.

C - Incorrect: push appends items at the array end rather than reducing existing items to one accumulated value.

D - Correct: reduceRight performs the requested right-to-left reduction, but sequentially rather than literally simultaneously.

Primary note proof

Study-note section WEB18

> reduce combines sequentially from left to right; reduceRight combines sequentially from right to left with an accumulator, not simultaneous parallel execution.

Study-note section WEB18

> Array push/pop add/remove at the end; unshift/shift act at the beginning.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 51 | lines 13-17

> Methods
> - Push → appends an element to the end
> - Pop → takes an element from the end.
> - Shift → Extracts the first element of the array and returns it
> - Unshift → Add the element to the beginning of the array:

Question sources

Web Programming practice questions · Question 31

Question 79 | Q01099

What is the output of following Javascript?var a = 'letsfind';var b = 'course';var c = a/b;document.write(c);

A. letsfindcourse

B. letsfind/course

C. NaN

D. None of the above

Hint

Track the value and type at each operation, applying the stated conversion, indexing or mathematical rule.

Answer C: NaN

WEB16 says arithmetic division converts ordinary numeric strings and gives NaN when nonnumeric strings are divided. Neither letsfind nor course is a numeric string, so a/b cannot produce a meaningful Number and evaluates to NaN. Division does not concatenate strings or insert a slash into displayed text. document.write therefore prints NaN.

Why each choice is right or wrong

A - Incorrect: Concatenation would use + with strings; the source instead applies arithmetic division.

B - Incorrect: The slash is an operator, not a literal character appended between the two strings.

C - Correct: Both operands are nonnumeric strings, so numeric division evaluates to NaN and that text is written.

D - Incorrect: NaN is explicitly offered and matches the defined conversion result.

Primary note proof

Study-note section WEB16

> + can concatenate when a string is involved; arithmetic / converts ordinary numeric strings.

Study-note section WEB16

> "abc"/"def" produces NaN; nonzero Number divided by zero produces signed Infinity, while 0/0 produces NaN.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 48 | lines 23-33

> 4.5.3 Data Type Conversion
> Type conversations are a very common occurrence in JavaScript. Operators and functions converts the values given to them to the right type. Mathematical operations convert value to numbers.
> - String conversion → we can use String(value) function to convert a value to string
> - Numeric Conversion → happens automatically in mathematical operations and expression. We can use the Number(value) function to explicitly convert a value to a number:
> let str = "123";
> let num = Number(str);

Web Programming module | PDF page 49 | lines 2-5

> 4.6 Arithmetic and Logical Operators in JavaScript
> Arithmetic operators are used to perform mathematical operations between numeric operands. We can perform different operations on numbers, like addition, subtraction multiplication. Here is the list of arithmetic operators we can use on numbers

Question sources

Web Programming practice questions · Question 32

Question 80 | Q01100

What does the following JavaScript code write? var a = 1; document.write(a--); document.write(a);

A. 00

B. 01

C. 11

D. 10

Hint

Track the value and type at each operation, applying the stated conversion, indexing or mathematical rule.

Answer D: 10

The source uses a-- despite the introductory mention of ++. Starting with a=1, postfix decrement yields the old value 1 to the first write and then changes a to 0. The second write outputs 0. No separator is written between calls, so the displayed result is 10, exactly as WEB17 explains.

Why each choice is right or wrong

A - Incorrect: Postfix decrement yields the original one for the first write, so the first digit cannot be zero.

B - Incorrect: This reverses the old-value and updated-value order of the two writes.

C - Incorrect: The decrement changes a to zero before the second write, so the second digit is not one.

D - Correct: The first write gets old value one, then the second gets updated zero, yielding adjacent text 10.

Primary note proof

Study-note section WEB17

> With a=1, printing a-- then a prints10.

Study-note section WEB17

> Postfix a++ yields the old value and then increments a.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 49 | lines 2-5

> 4.6 Arithmetic and Logical Operators in JavaScript
> Arithmetic operators are used to perform mathematical operations between numeric

operands. We can perform different operations on numbers, like addition, subtraction multiplication. Here is the list of arithmetic operators we can use on numbers

Web Programming module | PDF page 47 | lines 3-9

3. The write() method
- The write() method writes HTML expressions or JavaScript code to a document.
- The write() method is mostly used for testing: If it is used after an HTML document is fully loaded, it will delete all existing HTML.
Usage:
document.write(expr)

Question sources

Web Programming practice questions · Question 33

Question 81 | Q01101

Find output of below JavaScript addition codedocument.write("1 plus 1 is " + 1 + 1);

A. 2

B. 1 plus 1 is 2

C. 1 plus 1 is 11

D. 1 plus 1 is 1 + 1

Hint

Track the value and type at each operation, applying the stated conversion, indexing or mathematical rule.

Answer C: 1 plus 1 is 11

WEB17 explicitly traces this expression. Starting with a string makes the first + concatenate the first numeric 1, producing a longer string. The next + then concatenates the second 1 rather than adding numbers. The original literal supplies the words and spaces, while the two appended digits have no extra separator. The result is 1 plus 1 is 11.

Why each choice is right or wrong

A - Incorrect: The initial string is retained, and the two numbers are not added together first.

B - Incorrect: This would require grouping the numeric addition before concatenating it with the initial string.

C - Correct: Left-to-right evaluation concatenates each one to the existing string, producing the final digits 11.

D - Incorrect: The plus signs are operators rather than literal characters in the output string.

Primary note proof

Study-note section WEB17

"1 plus 1 is "+1+1 concatenates left to right to "1 plus 1 is 11".

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 48 | lines 23-33

4.5.3 Data Type Conversion
Type conversations are a very common occurrence in JavaScript. Operators and functions converts the values given to them to the right type. Mathematical operations convert value to numbers.
- String conversion → we can use String(value) function to convert a value to string
- Numeric Conversion → happens automatically in mathematical operations and expression. We can use the Number(value) function to explicitly convert a value to a number:
let str = "123";
let num = Number(str);

Question sources

Web Programming practice questions · Question 34

Question 82 | Q01102

In JavaScript, Arrays are data type. State True or False

A. True

B. False

Hint

Track the value and type at each operation, applying the stated conversion, indexing or mathematical rule.

Answer A: True

The data-type discussion explicitly includes arrays and defines them as regular objects storing indexed values. True fits the broad teaching use of data type; this does not mean arrays are a separate primitive type. Evidence: PDF p. 48.

Why each choice is right or wrong

A - Correct: Arrays are included in the type discussion as objects.

B - Incorrect: False would require the narrower unspoken meaning of separate primitive type.

Primary note proof

Study-note section WEB16

> Arrays are objects, even though informal texts call them an array data type.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 48 | lines 2-5

> - Objects → are used to store a key/value pair property. Objects are created using curly braces {}
> - Arrays → are regular objects and used to store indexed values. Arrays are created by using square brackets []

Question sources

Web Programming practice questions · Question 35

Question 83 | Q01103

Does JavaScript allow exception handling?

A. Yes, it provides try, catch as well as throw key word for exception handling

B. Yes, but it provides only try block

C. Yes, but it provides only Try catch block, but does not allow throw exception

D. No

Hint

Identify the role requested and compare it with the definitions and constraints in the cited passages.

Answer A: Yes: try, catch, and throw are supported.

WEB19 explicitly states that try/catch handles thrown errors during execution and throw signals an error. Thus A includes both handling and signaling mechanisms. The alternatives claiming only try, denying throw, or denying exception handling contradict that rule. This concerns runtime exception handling; it does not imply that every parse-time or logical error is caught automatically.

Why each choice is right or wrong

A - Correct: JavaScript provides try/catch to handle thrown errors and throw to signal them, as WEB19 states.

B - Incorrect: The language provides catch and throw as well as try, so this restriction is false.

C - Incorrect: WEB19 explicitly includes throw; the language does not prohibit explicitly signaling an exception.

D - Incorrect: JavaScript does support exception handling through the mechanisms described in the complete note.

Primary note proof

Study-note section WEB19

> try/catch handles thrown errors during execution; throw signals one; finally runs cleanup.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 54 | lines 10-19

> 4.10.4 Handling Exception in JavaScript
> There’s a syntax construct try...catch that allows us to “catch” errors so the script
> can, instead of dying, do something more reasonable.
> The “try...catch” syntax
> The try...catch construct has two main blocks: try, and then catch:
> try {
> // code...
> } catch (err) {
> // error handling
> }

Question sources

Web Programming practice questions · Question 36

Question 84 | Q01104

Which of the following method checks if its argument is not a number?

A. isNaN()

B. nonNaN()

C. NaN()

D. None of the above

Hint

Track the value and type at each operation, applying the stated conversion, indexing or mathematical rule.

Answer A: isNaN(), with coercion caveats.

WEB16 distinguishes global isNaN, which converts its argument first, from Number.isNaN, which does not. Of the offered names, isNaN is the actual check for a NaN result after coercion. It is not a universal test for whether the original argument's type is Number. Neither nonNaN nor calling NaN as a function supplies the described API.

Why each choice is right or wrong

A - Correct: Global isNaN exists and tests for NaN after numeric conversion; it is not a pure original-type test.

B - Incorrect: nonNaN() is not the check named in the supplied JavaScript API rule.

C - Incorrect: NaN is the special numeric value, not the callable checking function offered here.

D - Incorrect: isNaN is offered and matches the intended check, subject to the note's coercion caveat.

Primary note proof

Study-note section WEB-S08

> Global isNaN(value) tests whether conversion to Number produces NaN.

Study-note section WEB-S08

> NaN is itself a special numeric value, not a callable checking function.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 48 | lines 23-33

> 4.5.3 Data Type Conversion
> Type conversations are a very common occurrence in JavaScript. Operators and functions converts the values given to them to the right type. Mathematical operations convert value to numbers.
> - String conversion → we can use String(value) function to convert a value to string

- Numeric Conversion → happens automatically in mathematical operations and expression. We can use the Number(value) function to explicitly convert a value to a number:
let str = "123";
let num = Number(str);

Question sources

Web Programming practice questions · Question 37

Question 85 | Q01105

What does parseInt("12.8", 10) return in JavaScript?

A. Throws Error

B. It returns the decimal values in string form

C. The Number value 12

D. None of the listed option

Hint

Track the value and type at each operation, applying the stated conversion, indexing or mathematical rule.

Answer C: The Number value 12

parseInt reads digits in the supplied radix until it reaches a character that cannot continue that integer representation. Here it consumes the digits before the decimal point and stops at the point, returning Number 12. It does not round the decimal value, return a string or throw merely because a decimal point appears. The concrete string avoids claiming that every decimal-looking input has a usable leading integer prefix.

Why each choice is right or wrong

A - Incorrect: A decimal point after an initial digit sequence does not require an exception.

B - Incorrect: The return value is a Number, not a string containing the decimal.

C - Correct: The radix-ten digit prefix yields Number 12.

D - Incorrect: A listed choice gives the actual result.

Primary note proof

Study-note section WEB16

parseInt("12.8",10) reads12, stopping at the dot; this is parsing, not rounding.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 48 | lines 23-33

4.5.3 Data Type Conversion
Type conversations are a very common occurrence in JavaScript. Operators and functions converts the values given to them to the right type. Mathematical operations convert value to numbers.
- String conversion → we can use String(value) function to convert a value to string
- Numeric Conversion → happens automatically in mathematical operations and expression. We can use the Number(value) function to explicitly convert a value to a number:
let str = "123";
let num = Number(str);

Question sources

Web Programming practice questions · Question 38

Question 86 | Q01106

What is the output of below JavaScript code?alert (type of new Date());

A. Throws Error

B. object

C. Displays Nothing

D. Current Date

Hint

Track the value and type at each operation, applying the stated conversion, indexing or mathematical rule.

Answer A: Syntax error: the source says type of rather than typeof.

type of new Date() is invalid JavaScript syntax; the operator is typeof, written as one word. Therefore the shown program errors before displaying an ordinary value. typeof new Date() would evaluate to "object", but that is a different expression from the code shown.

Why each choice is right or wrong

A - Correct: The spaced text type of is not the typeof operator, causing a syntax error in the literal source.

B - Incorrect: object is the result after repairing type of to typeof, which the task has not authorized.

C - Incorrect: The primary result is a syntax error, not successful execution with an intentionally empty display.

D - Incorrect: A valid typeof expression reports a type, rather than the current date value.

Primary note proof

Study-note section WEB19

A literal type of expression is not the typeof operator.

Study-note section WEB41

x=4+"4"5 is a syntax error because an operator is missing; bool ans=true and type of new Date() are syntax errors too.

Study-note section WEB16

typeof new Date() is "object"; typeof null is historically "object".

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 48 | lines 2-5

- Objects → are used to store a key/value pair property. Objects are created using curly braces {}
- Arrays → are regular objects and used to store indexed values. Arrays are created by using square brackets []

Web Programming module | PDF page 47 | lines 3-9

3. The write() method
- The write() method writes HTML expressions or JavaScript code to a document.
- The write() method is mostly used for testing: If it is used after an HTML document is fully loaded, it will delete all existing HTML.

Usage:
document.write(expr)

Question sources

Web Programming practice questions · Question 39

Question 87 | Q01107

What if we put ++ operator inside if condition? find the output of below code<script>var a = 10;if(a == a++)document.write(a);</script>

A. Error

B. Nothing is printed

C. 10

D. 11

Hint

Track the value and type at each operation, applying the stated conversion, indexing or mathematical rule.

Answer D: 11

WEB17 traces this exact JavaScript pattern. The left operand reads 10; postfix a++ yields old 10 and then sets a to 11. Equality therefore compares 10 with 10 and is true. The body runs after the increment and writes the updated value 11. These JavaScript evaluation rules should not be replaced with C/C++ assumptions.

Why each choice is right or wrong

A - Incorrect: The expression is valid JavaScript; its specified evaluation order does not produce the supposed error.

B - Incorrect: The comparison uses old ten on both sides and is true, so the body does execute.

C - Incorrect: Ten is the compared old value, but the increment has completed before document.write reads a.

D - Correct: The equality succeeds using old values, then the body prints the updated value eleven.

Primary note proof

Study-note section WEB17

> Postfix a++ yields the old value and then increments a.

Study-note section WEB17

> If a=10, a==a++ compares10 with10, then the body sees11.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 49 | lines 9-14

> 4.7 Control Structures (Conditional and Looping Statements)
> The “if” statement:
> The if(...) statement evaluates a condition in parentheses and, if the result is true,
> executes a block of code.
> let age = 20;
> if (age > 18) alert('You are right!');

Web Programming module | PDF page 48 | lines 10-13

> - Using the let keyword → the following statement declares a variable
> let message;
> now we can put values using the assignment operator (=)
> - Using var keyword → we can also declare variable using the var keyword

Question sources

Web Programming practice questions · Question 40

Question 88 | Q01108

An inline onkeydown handler returns false for a cancelable keydown event whose default action is text insertion. Which statement correctly describes the cancellation?

A. The default text-insertion action associated with the handled keydown is canceled

B. A later keypress handler retroactively cancels the earlier keydown event

C. The keyup event is necessarily prevented from being dispatched

D. Every later keyboard event is necessarily canceled

Hint

Separate event dispatch, handler registration and cancellation of the browser default action.

Answer A: The default text-insertion action associated with the handled keydown is canceled

An appropriate inline event handler can use a false return value to cancel the handled event's default action. With the cancelable text-insertion action specified here, that default action is stopped. This does not erase an earlier event or guarantee that later keyboard events disappear. The distinction is between canceling a default behavior and suppressing an entire sequence of event dispatches; addEventListener would require preventDefault instead.

Why each choice is right or wrong

A - Correct: The inline handler convention consumes false to cancel the specified default action.

B - Incorrect: A later handler cannot undo the dispatch of an earlier event.

C - Incorrect: Canceling a default action does not guarantee suppression of keyup dispatch.

D - Incorrect: The cancellation concerns the handled default action, not every later event.

Primary note proof

Study-note section WEB21

> Returning false from an addEventListener callback does not cancel it; return false works in an appropriate inline/onsubmit property handler whose caller uses that return.

Study-note section WEB21

> For cancelable keyboard defaults, call preventDefault rather than assuming a different key event itself disappears.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 53 | lines 4-18

> 4.10.3 Events in JavaScript
> An event is a signal that something has happened. All DOM nodes generate such
> signals (but events are not limited to DOM).
> Here's a list of the most useful DOM events, just to take a look at:
> - click - when the mouse clicks on an element (touchscreen devices generate it

on a tap).
- contextmenu - when the mouse right-clicks on an element.
- mouseover / mouseout - when the mouse cursor comes over / leaves an element.
- mousedown / mouseup - when the mouse button is pressed / released over an element.
- mousemove - when the mouse is moved.
Event Handlers
To react on events we can assign a handler - a function that runs in case of an event.
Handlers are a way to run JavaScript code in case of user actions.

Web Programming module | PDF page 54 | lines 6-7

- passive: if true, then the handler will not call preventDefault(), we'll explain that later in Browser default actions.

Question sources

Web Programming practice questions · Question 41

Question 89 | Q01109

The _____ method of an Array object adds and/or removes elements from an array.

A. Reverse

B. Shift

C. Slice

D. Splice

Hint

Track the value and type at each operation, applying the stated conversion, indexing or mathematical rule.

Answer D: splice()

WEB18 defines splice(start,deleteCount,...items) as mutating an array by removing and inserting elements. That is the combined operation in the stem. The options capitalize method names as terms; the actual JavaScript call is lowercase splice(). reverse changes order, shift removes only the first item, and slice produces a shallow copy rather than that mutation.

Why each choice is right or wrong

A - Incorrect: reverse() changes element order in place rather than adding or removing the requested entries.

B - Incorrect: shift() removes one first element; it is not the general combined insertion/removal method.

C - Incorrect: slice() returns a shallow copy of a selected range rather than mutating through insertion or removal.

D - Correct: The actual lowercase splice() method removes and optionally inserts entries in the original array.

Primary note proof

Study-note section WEB18

> slice returns a selected shallow copy; splice(start,deleteCount,...items) mutates by removal/insertion.

Study-note section WEB18

> reverse reverses in place.

Study-note section WEB18

> Array push/pop add/remove at the end; unshift/shift act at the beginning.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 51 | lines 13-17

> Methods
> - Push → appends an element to the end
> - Pop → takes an element from the end.
> - Shift → Extracts the first element of the array and returns it
> - Unshift → Add the element to the beginning of the array:

Question sources

Web Programming practice questions · Question 42

Question 90 | Q01110

The term PHP is an acronym for PHP:_____.

A. Hypertext Preprocessor

B. Hypertext multiprocessor

C. Hypertext markup Preprocessor

D. Hypertune Preprocessor

Hint

Check exact language syntax, declaration rules and execution context before reasoning about the result.

Answer A: Hypertext Preprocessor

Page 60 explicitly expands PHP as Hypertext Preprocessor. No extra markup, multi-, or Hypertune term occurs in that expansion. Evidence: PDF p. 60.

Why each choice is right or wrong

A - Correct: Exact expansion.

B - Incorrect: Changes Preprocessor to multiprocessor.

C - Incorrect: Adds markup to the expansion.

D - Incorrect: Changes Hypertext to Hypertune.

Primary note proof

Study-note section WEB23

> PHP means PHP: Hypertext Preprocessor.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 60 | lines 4-8

> PHP is a server-side scripting language, which can be embedded in HTML or used as a standalone binary (although the former use is much more common). PHP stands for Hypertext Preprocessor. The product was originally named Personal Home Page Tools, and many people still think that is what the acronym stands for. But as it expanded in scope, a new and more appropriate name was selected by community vote. PHP is the

Question sources

Web Programming practice questions · Question 43

Question 91 | Q01111

PHP is a _____ language?

A. user-side scripting

B. client-side scripting

C. server-side scripting

D. Both B and C

Hint

Check exact language syntax, declaration rules and execution context before reasoning about the result.

Answer C: server-side scripting

In the web execution model used here, PHP runs on the server, generates responses and can access databases. The browser receives its output rather than executing the PHP source as its client-side script. Client-side interactivity is supplied by languages such as JavaScript. Thus server-side scripting is the matching category, and the combined alternative incorrectly adds client-side execution.

Why each choice is right or wrong

A - Incorrect: User-side is not the server-execution category described for PHP.

B - Incorrect: Client-side scripting runs in the browser, whereas the described PHP processing runs on the server.

C - Correct: PHP is the server-side scripting language in this web application model.

D - Incorrect: This combines the correct server role with a client-side role that does not apply to PHP source in the described model.

Primary note proof

Study-note section WEB01

> PHP, Python, JSP/Java and ASP.NET applications generate server responses and access databases; C# is commonly used with ASP.NET.

Study-note section WEB23

> It can emit ordinary text and HTML.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 60 | lines 4-10

> PHP is a server-side scripting language, which can be embedded in HTML or used as a standalone binary (although the former use is much more common). PHP stands for Hypertext Preprocessor. The product was originally named Personal Home Page Tools, and many people still think that is what the acronym stands for. But as it expanded in

scope, a new and more appropriate name was selected by community vote. PHP is the language that you use to make the server generate dynamic output-output that is potentially different each time a browser re-quests a page.

Question sources

Web Programming practice questions · Question 44

Question 92 | Q01112

PHP files have a default file extension of_____.

A. .html

B. .xml

C. .php

D. .hphp

Hint

Check exact language syntax, declaration rules and execution context before reasoning about the result.

Answer C: .php

The module explicitly states that PHP documents end with .php by default and are passed to the PHP processor. Evidence: PDF p. 60.

Why each choice is right or wrong

A - Incorrect: HTML document extension, not the stated PHP default.

B - Incorrect: Not the module PHP extension.

C - Correct: Exact default extension.

D - Incorrect: Not the module PHP extension.

Primary note proof

Study-note section WEB23

> Use <?php ...

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 60 | lines 20-22

> By default, PHP documents end with the extension .php. When a web server encounters this extension in a requested file, it automatically passes it to the PHP processor. At its very simplest, a PHP document will output only HTML.

Question sources

Web Programming practice questions · Question 45

Question 93 | Q01113

Which of the following is the correct syntax of php?

A. <?php >

B. <php >

C. ?php ?

D. <?php ?>

Hint

Check exact language syntax, declaration rules and execution context before reasoning about the result.

Answer D: <?php ?>

The standard PHP delimiter pair shown on p.60 is <?php followed by ?>. Both markers are necessary to match the demonstrated embedded-code form. Evidence: PDF p. 60.

Why each choice is right or wrong

A - Incorrect: Closing marker lacks question mark.

B - Incorrect: Opening and closing markers are incomplete.

C - Incorrect: Neither marker has angle brackets.

D - Correct: Matches both standard markers.

Primary note proof

Study-note section WEB23

> Use <?php ...

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 60 | lines 23-27

> 5.2 Basic PHP Syntax
> The most universally effective PHP syntax is:
> <?php
> //php script
> ?>

Question sources

Web Programming practice questions · Question 46

Question 94 | Q01114

Which of the below statements is equivalent to $sub -= $sub?

A. $sub = $sub

B. $sub = $sub -$sub

C. $sub = $sub - 1

D. $sub = $sub - $sub - 1

Hint

Trace the bindings and operations in order; preserve the exact string characters and distinguish returned values from emitted output.

Answer B: $sub = $sub - $sub

WEB26 explicitly expands $sub-=$sub into $sub=$sub-$sub. Compound subtraction uses the existing left-side value minus the stated right-side value and stores the result back. Here both references name the same value; no constant one is subtracted. The expression is therefore not decrement and does not preserve the old value by simple reassignment.

Why each choice is right or wrong

A - Incorrect: Simple self-assignment leaves the value unchanged rather than subtracting the right-hand operand.

B - Correct: This is the exact expansion of compound subtraction with $sub on both sides.

C - Incorrect: Subtracting one is decrement; the actual right-hand operand is $sub rather than the constant one.

D - Incorrect: The extra subtraction of one is absent from the compound assignment and changes its meaning.

Primary note proof

Study-note section WEB26

> $sub-=$sub is $sub=$sub-$sub, not decrement.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 64 | lines 10-12

> ➢ The value of a variable is the value of its most recent assignment.
> ➢ Variables are assigned with the = operator, with the variable on the left-hand side and the expression to be evaluated on the right.

Web Programming module | PDF page 65 | lines 8-12

> Arithmetic Operators:
> Arithmetic operators do what you would expect. They are used to perform mathematics. You can use them for the main four operations (plus, minus, multiply, and

divide) as well as to find a modulus (the remainder after a division) and to increment or decrement a value.

Question sources

Web Programming practice questions · Question 47

Question 95 | Q01115

Which PHP statement reliably outputs the literal characters $lfc, regardless of the variable's current value?

A. echo "$lfc";

B. echo "$$lfc";

C. echo '$lfc';

D. echo "$lfc;";

Hint

Identify the role requested and compare it with the definitions and constraints in the cited passages.

Answer C: echo '$lfc';

Double-quoted PHP strings interpolate variable names, so the unescaped occurrences of $lfc depend on the variable's value. A single-quoted string normally preserves the dollar name literally and therefore emits the requested characters. Extra dollar signs or quoted semicolons do not turn the remaining double-quoted choices into reliable literal output. The option changes the quoting rather than assuming a convenient variable value.

Why each choice is right or wrong

A - Incorrect: Double quotes interpolate the variable's value.

B - Incorrect: The extra dollar sign does not prevent interpolation of $lfc.

C - Correct: Single quotes preserve the dollar name as literal text.

D - Incorrect: The variable is interpolated and the semicolon inside the string is also output.

Primary note proof

Study-note section WEB24

Double-quoted strings interpolate variables and escapes such as \n; single quotes normally preserve dollar names literally.

Study-note section WEB24

To emit literal $lfc use echo '$lfc'; or escape the dollar in double quotes.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 62 | lines 27-33

In PHP user defined variable can be declared as:
$var_name = value;
Example
<?php
// Declaring variables
$txt = "Hello World!";
$number = 10;

Web Programming module | PDF page 63 | lines 5-18

5.3 PHP Output Statements
The two most basic constructs for printing to output are echo and print. Their language status is somewhat confusing, because they are basic constructs of the PHP language, rather than being functions. As a result, they can be used either with parentheses or without them.
Echo
The simplest use of echo is to print a string as argument.
For example:
echo “This will print in the user’s browser window.”;
Or equivalently:
echo(“This will print in the user’s browser window.”);
You can also give multiple arguments to the unparenthesized version of echo, separated by commas, as in:
echo “This will print in the “, “user‟s browser window.”;

Question sources

Web Programming practice questions · Question 48

Question 96 | Q01116

Which of the below symbol is a newline character?

A. \r

B. \n

C. /r

D. /n

Hint

Identify the role requested and compare it with the definitions and constraints in the cited passages.

Answer B: \n

WEB24 identifies \n among escapes interpreted in PHP double-quoted strings. That sequence represents a newline; a forward slash does not introduce the escape. \r denotes a different line-control character rather than the newline sequence requested. Interpretation depends on string context, since single-quoted strings generally preserve such escapes rather than processing them the same way.

Why each choice is right or wrong

A - Incorrect: \r is the carriage-return escape, a different line-control character from the newline sequence requested.

B - Correct: \n is the newline escape sequence recognized in the note's double-quoted string context.

C - Incorrect: A forward slash does not introduce the newline escape, so /r is ordinary text here.

D - Incorrect: The newline escape uses a backslash; /n with a forward slash is ordinary text.

Primary note proof

Study-note section WEB-S06

> In double-quoted PHP strings, backslash-n represents a line feed and backslash-r represents a carriage return.

Study-note section WEB-S06

> The written sequences are \n and \r; forward-slash sequences such as /n are ordinary text.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 15 | lines 33-34

> • line break - inserts a new line.
> Format: <br>. E.g., Line one <br> line two <br> line three <br> line four

Web Programming module | PDF page 63 | lines 11-18

> The simplest use of echo is to print a string as argument.
> For example:
> echo “This will print in the user’s browser window.”;
> Or equivalently:
> echo(“This will print in the user’s browser window.”);
> You can also give multiple arguments to the unparenthesized version of echo,
> separated by commas, as in:
> echo “This will print in the “, “user‟s browser window.”;

Question sources

Web Programming practice questions · Question 49

Question 97 | Q01117

PHP files can contain _____ code.

A. text

B. HTML

C. python

D. Both A and B

Hint

Check exact language syntax, declaration rules and execution context before reasoning about the result.

Answer D: Both A and B

PHP can be embedded within ordinary HTML (p.60); the output examples contain text strings (p.63). Thus text and HTML can coexist in a PHP document. Evidence: PDF p. 60, PDF p. 63.

Why each choice is right or wrong

A - Incorrect: Text can occur, but A alone omits HTML.

B - Incorrect: HTML can occur, but B alone omits text.

C - Incorrect: The module does not define Python embedding or execution.

D - Correct: Combines the supported text and HTML forms.

Primary note proof

Study-note section WEB23

> It can emit ordinary text and HTML.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 60 | lines 28-32

> If you use this style, you can be positive that your tags will always be correctly interpreted. The way you use this tag is quite flexible. Some programmers enclose everything between this opening and closing tag. Others, however, choose to insert only wherever dynamic scripting is required, leaving the rest of the document in standard HTML.

Web Programming module | PDF page 63 | lines 11-18

> The simplest use of echo is to print a string as argument.
> For example:
> echo “This will print in the user’s browser window.”;
> Or equivalently:
> echo(“This will print in the user’s browser window.”);
> You can also give multiple arguments to the unparenthesized version of echo,

separated by commas, as in:
echo “This will print in the “, “user‟s browser window.”;

Question sources

Web Programming practice questions · Question 50

Question 98 | Q01118

What will be the output of the following PHP code?
<?php
$x = 8;
$y = 8.0;
echo ($x === $y);
?>

A. 8 === 8

B. No Output

C. 1

D. 0

Hint

Trace the bindings and operations in order; preserve the exact string characters and distinguish returned values from emitted output.

Answer B: No output characters.

In PHP, 8===8.0 is false because int and float differ, despite equal numeric values. echo false emits an empty string. Consequently the shown code produces no output characters, rather than printing zero. The comparison expression itself is evaluated and is not emitted as source text.

Why each choice is right or wrong

A - Incorrect: echo evaluates the comparison instead of printing its source expression.

B - Correct: Strict identity fails for int versus float, and echo false emits no characters.

C - Incorrect: One is the echo representation of true; the strict identity comparison here is false.

D - Incorrect: Although the comparison is false, echo false emits an empty string rather than the digit zero.

Primary note proof

Study-note section WEB24

PHP 8==8.0 is true, but 8===8.0 is false because types differ; echo false emits an empty string, echo true emits1.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 63 | lines 27-33

> 5.4 Data Types and Variables in PHP
> PHP is a very loosely typed language. This means that variables do not have to be declared before they are used, and that PHP always converts variables to the type required by their context when they are accessed. Variables can store data of different types, and different data types can do different things. PHP supports the following data types: String, Integer, Float (floating point numbers - also called double), Boolean, Array, Object, NULL and Resource

Web Programming module | PDF page 65 | lines 13-16

> Logical Operators:
> As a rule, if something has a TRUE or FALSE value, it can be input to a logical operator. A logical operator takes two true-or-false inputs and produces a true-or-false result. The PHP logical operators are sued to combine conditional statements.

Question sources

Web Programming practice questions · Question 51

Question 99 | Q01119

The script that executes at the browser side is called _____

A. Client-side scripting

B. Server-side scripting

C. Both A and B

D. None of the above

Hint

Identify the role requested and compare it with the definitions and constraints in the cited passages.

Answer A: Client-side scripting

The module distinguishes client/browser behavior from server-side PHP. Code executing in the browser is client-side scripting in this model. Evidence: PDF p. 9, PDF p. 60, PDF p. 56.

Why each choice is right or wrong

A - Correct: Browser-side matches client-side.

B - Incorrect: PHP server processing happens on the server.

C - Incorrect: The stated execution site is the client, not both.

D - Incorrect: A matches the documented client/server distinction.

Primary note proof

Study-note section WEB01

> A browser/user agent requests resources and renders HTML/CSS, then runs permitted JavaScript.

Study-note section WEB01

> PHP, Python, JSP/Java and ASP.NET applications generate server responses and access databases; C# is commonly used with ASP.NET.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 9 | lines 2-4

> • Web pages are files stored on computers called Web servers.
> • Computers reading the Web pages are called Web clients.
> • Web clients view the pages with a program called a Web browser.

Web Programming module | PDF page 60 | lines 11-16

> Client-side scripting is the glamorous, eye-catching part of Web development. In contrast, server-side scripting is invisible to the user. Server-side Web scripting is mostly about connecting Web sites to back-end servers, such as databases. This enables the following types of two-way communication:
> ➢ Server to client: Web pages can be assembled from back end-server output.
> ➢ Client to server: Customer-entered information can be acted upon.

Web Programming module | PDF page 56 | lines 7-9

> The Browser Object Model (BOM) is a browser-specific convention referring to all the objects exposed by the web browser. The BOM allows JavaScript to “interact with” the browser.

Question sources

Web Programming practice questions · Question 52

Question 100 | Q01120

How many basic PHP output language constructs are counted when callable output functions such as printf and print_r are excluded?

A. 1

B. 2

C. 3

D. 4

Hint

Identify the role requested and compare it with the definitions and constraints in the cited passages.

Answer B: 2

The note identifies echo and print as two basic output constructs. This count is about that language-construct category, rather than every way a PHP program can produce output. Functions such as printf and print_r provide additional output mechanisms but do not increase the specified count of constructs. The revised category therefore supports one numeric choice without implying that PHP has only two output mechanisms altogether.

Why each choice is right or wrong

A - Incorrect: Both echo and print belong to the specified category, so one is too few.

B - Correct: The category contains the two named basic constructs.

C - Incorrect: This would count an additional mechanism outside the specified construct category.

D - Incorrect: This would mix other output mechanisms into the restricted category.

Primary note proof

Study-note section WEB24

> They are two basic output constructs, not the only output mechanisms; printf, print_r and others exist.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 63 | lines 5-9

> 5.3 PHP Output Statements
> The two most basic constructs for printing to output are echo and print. Their language status is somewhat confusing, because they are basic constructs of the PHP language, rather than being functions. As a result, they can be used either with parentheses or without them.

Web Programming module | PDF page 69 | lines 34-35

> We have also used the print_r function (which prints out the contents of a variable, array, or object) is used to verify that the array has been correctly populated.

Question sources

Web Programming practice questions · Question 53

Web Programming practice questions · Question 54

Question 101 | Q01122

How many return value does echo statement has?

A. 1

B. 2

C. 3

D. 0

Hint

Trace the bindings and operations in order; preserve the exact string characters and distinguish returned values from emitted output.

Answer D: 0

Page 63 contrasts print, which returns a value, with echo, which does not. Thus echo has zero return values; zero here counts return values rather than describing a returned numeric zero. Evidence: PDF p. 63.

Why each choice is right or wrong

A - Incorrect: Would give echo the return behavior assigned to print.

B - Incorrect: No two return values are described.

C - Incorrect: No three return values are described.

D - Correct: No return value, expressed as count zero.

Primary note proof

Study-note section WEB24

> echo is a language construct with no return value and can emit comma-separated expressions.

Study-note section WEB24

> print takes one expression and returns1.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 63 | lines 21-26

> Print
> The command print is very similar to echo, with two important differences:
> ✦ unlike echo, print can accept only one argument.
> ✦ unlike echo, print returns a value, which represents whether the print statement succeeded. The value returned by print will be 1 if the printing was successful and 0 if unsuccessful.

Question sources

Web Programming practice questions · Question 55

Question 102 | Q01123

What exact raw response text does this PHP emit, before any browser HTML rendering?
<?php
echo "Hello world </br> I am learning PHP at letsfindcourse";
?>

A. Hello world

B. Hello world </br> I am learning PHP at letsfindcourse

C. Hello worldI am learning PHP at letsfindcourse

D. Error

Hint

Trace the bindings and operations in order; preserve the exact string characters and distinguish returned values from emitted output.

Answer B: Hello world </br> I am learning PHP at letsfindcourse

echo emits the characters of its string without automatically adding or removing spaces. Because the question asks for raw response text, the break-like markup remains present exactly as written; browser error recovery is irrelevant to this output. Both phrases and the spaces around the markup are preserved. The HTML fragment's unusual closing form does not make the surrounding PHP string syntactically invalid.

Why each choice is right or wrong

A - Incorrect: This omits the markup and the second phrase.

B - Correct: This preserves every character in the emitted string.

C - Incorrect: This omits the intervening spaces, markup and separation.

D - Incorrect: The markup is inside a valid PHP string and causes no PHP parse error.

Primary note proof

Study-note section WEB24

> PHP sends markup as response characters; a browser then interprets it.

Study-note section WEB24

> Neither automatically inserts spaces/newlines.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 63 | lines 11-15

> The simplest use of echo is to print a string as argument.
> For example:

echo “This will print in the user’s browser window.”;
Or equivalently:
echo(“This will print in the user’s browser window.”);

Web Programming module | PDF page 15 | lines 33-34

• line break - inserts a new line.
Format: <br>. E.g., Line one <br> line two <br> line three <br> line four

Question sources

Web Programming practice questions · Question 56

Question 103 | Q01124

What will be the output of the following PHP code?
<?php
$five = 5;
print($five);
print $five;
?>

A. 05

B. 55

C. 50

D. Error

Hint

Trace the bindings and operations in order; preserve the exact string characters and distinguish returned values from emitted output.

Answer B: 55

print accepts one argument and may be written with or without parentheses (p.63). Both statements print the assigned 5, with no intervening separator, giving 55. Evidence: PDF p. 63, PDF p. 63, PDF p. 64.

Why each choice is right or wrong

A - Incorrect: First output is 5, not zero.

B - Correct: Two successive prints of 5 concatenate in output.

C - Incorrect: Second output is also 5.

D - Incorrect: Both print forms are explicitly permitted.

Primary note proof

Study-note section WEB24

Two prints of5 emit55; "I"."am" emitsIam.

Study-note section WEB-S06

The basic print and echo constructs can be written with or without parentheses when their syntax permits it.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 63 | lines 5-9

5.3 PHP Output Statements
The two most basic constructs for printing to output are echo and print. Their language status is somewhat confusing, because they are basic constructs of the PHP language, rather than being functions. As a result, they can be used either with parentheses or without them.

Web Programming module | PDF page 63 | lines 21-26

Print
The command print is very similar to echo, with two important differences:
✦ unlike echo, print can accept only one argument.
✦ unlike echo, print returns a value, which represents whether the print statement succeeded. The value returned by print will be 1 if the printing was successful and 0 if unsuccessful.

Web Programming module | PDF page 64 | lines 10-12

➢ The value of a variable is the value of its most recent assignment.
➢ Variables are assigned with the = operator, with the variable on the left-hand side and the expression to be evaluated on the right.

Question sources

Web Programming practice questions · Question 57

Question 104 | Q01125

What will be the output of the following PHP code?
<?php
print("I"."am"."learning"."php");
?>

A. Iamlearningphp

B. I am learning php

C. Nothing

D. error

Hint

Trace the bindings and operations in order; preserve the exact string characters and distinguish returned values from emitted output.

Answer A: Iamlearningphp

The PHP examples join strings and variables using dot (p.72). Joining I, am, learning and php inserts no spaces, so the resulting single argument is Iamlearningphp and print emits it. Evidence: PDF p. 72, PDF p. 63.

Why each choice is right or wrong

A - Correct: Preserves all characters with no added spaces.

B - Incorrect: No operand contains a space.

C - Incorrect: print produces output, not silence.

D - Incorrect: Single joined argument fits print.

Primary note proof

Study-note section WEB24

> Dot concatenates; + is arithmetic.

Study-note section WEB24

> Neither automatically inserts spaces/newlines.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 72 | lines 19-22

```
function info($name,$age,$salary){
echo “name:”.$name.”<br>”;
echo “age:”.$age.”<br>”;
echo “salary:”.$salary.”<br>”; }
```

Web Programming module | PDF page 63 | lines 21-26

> Print
> The command print is very similar to echo, with two important differences:
> ✦ unlike echo, print can accept only one argument.
> ✦ unlike echo, print returns a value, which represents whether the print statement succeeded. The value returned by print will be 1 if the printing was successful and 0 if unsuccessful.

Question sources

Web Programming practice questions · Question 58

Question 105 | Q01126

which of the following is correct echo statement?

A. echo "<h2>PHP is Fun!</h2>";

B. echo "PHP is Fun!
";

C. echo "PHP ", "is ", "Fun!";

D. All of the above

Hint

Trace the bindings and operations in order; preserve the exact string characters and distinguish returned values from emitted output.

Answer D: All of the above

Echo accepts quoted strings, including HTML in generated output, and multiple comma-separated arguments when unparenthesized (p.63). All three snippets meet those forms. Evidence: PDF p. 63, PDF p. 60.

Why each choice is right or wrong

A - Incorrect: Valid string containing heading markup.

B - Incorrect: Valid string containing a line-break tag.

C - Incorrect: Valid unparenthesized multiple-argument echo.

D - Correct: All A-C are valid under the cited echo rules.

Primary note proof

Study-note section WEB24

> echo is a language construct with no return value and can emit comma-separated expressions.

Study-note section WEB24

> PHP sends markup as response characters; a browser then interprets it.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 63 | lines 11-20

> The simplest use of echo is to print a string as argument.
> For example:
> echo “This will print in the user’s browser window.”;
> Or equivalently:
> echo(“This will print in the user’s browser window.”);
> You can also give multiple arguments to the unparenthesized version of echo,
> separated by commas, as in:
> echo “This will print in the “, “user‟s browser window.”;

The parenthesized version, however, will not accept multiple arguments:
echo (“This will produce a “, “PARSE ERROR!”);

Web Programming module | PDF page 60 | lines 20-22

By default, PHP documents end with the extension .php. When a web server encounters this extension in a requested file, it automatically passes it to the PHP processor. At its very simplest, a PHP document will output only HTML.

Question sources

Web Programming practice questions · Question 59

Question 106 | Q01127

What will be the output of the following PHP code?
<?php
echo "This is Letsfindcourse";
?>

A. This is Letsfindcourse

B. This is Letsfindcourse(Letsfindcourse in italic)

C. This is

D. Error

Hint

Trace the bindings and operations in order; preserve the exact string characters and distinguish returned values from emitted output.

Answer B: This is Letsfindcourse(Letsfindcourse in italic)

Echo emits the quoted HTML string (p.63); the i element renders its content in italics (p.15). Consequently the full text is displayed with Letsfindcourse italicized. Evidence: PDF p. 63, PDF p. 15.

Why each choice is right or wrong

A - Incorrect: Text is present but this omits the requested formatting distinction.

B - Correct: States both the text and italic formatting.

C - Incorrect: Incorrectly drops the i element content.

D - Incorrect: The quoted string and i tags fit the documented forms.

Primary note proof

Study-note section WEB24

PHP sends markup as response characters; a browser then interprets it.

Study-note section WEB-S07

> In the browser’s default presentation, an i element typically displays its text in italics.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 63 | lines 11-15

> The simplest use of echo is to print a string as argument.
> For example:
> echo “This will print in the user’s browser window.”;
> Or equivalently:
> echo(“This will print in the user’s browser window.”);

Web Programming module | PDF page 15 | lines 22-23

> Italics - makes a text appear in italics
> Format: ... or .... E.g., a text in italics

Question sources

Web Programming practice questions · Question 60

Question 107 | Q01128

Any variables declared in PHP must begin with a _____?

A. .

B. #

C. &

D. $

Hint

Check exact language syntax, declaration rules and execution context before reasoning about the result.

Answer D: $

All PHP variables have a leading dollar sign according to p.64. Evidence: PDF p. 64.

Why each choice is right or wrong

A - Incorrect: Dot is not the variable prefix.

B - Incorrect: Hash is not the variable prefix.

C - Incorrect: Ampersand is not the variable prefix.

D - Correct: Exact mandatory leading symbol.

Primary note proof

Study-note section WEB23

> Variables begin with $, then a letter/underscore and subsequent letters/digits/underscores; $AGE18 works but $18AGE does not.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 64 | lines 6-9

> All variables in PHP are denoted with a leading dollar sign ($).
> All variables in PHP start with a leading $ sign. After the initial $, variable names must be composed of letters (uppercase or lowercase), digits (0-9), and underscore characters (_). Furthermore, the first character after the $ may not be a number.

Question sources

Web Programming practice questions · Question 61

Question 108 | Q01129

A variable can have _____?

A. long descriptive names

B. short names

C. Both A and B

D. None of the above

Hint

Check exact language syntax, declaration rules and execution context before reasoning about the result.

Answer C: Both A and B

After $, identifiers may contain letters, digits and underscores, with no stated fixed short length; both short and descriptive names fit this rule. Names must still satisfy the first-character restriction. Evidence: PDF p. 64.

Why each choice is right or wrong

A - Incorrect: Allowed but not the only allowed length style.

B - Incorrect: Allowed but not the only allowed length style.

C - Correct: Both comply when characters are valid.

D - Incorrect: The naming rule permits both examples of name length.

Primary note proof

Study-note section WEB23

> Variables begin with $, then a letter/underscore and subsequent letters/digits/underscores; $AGE18 works but $18AGE does not.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 64 | lines 6-9

> All variables in PHP are denoted with a leading dollar sign ($).
> All variables in PHP start with a leading $ sign. After the initial $, variable names must be composed of letters (uppercase or lowercase), digits (0-9), and underscore characters (_). Furthermore, the first character after the $ may not be a number.

Question sources

Web Programming practice questions · Question 62

Question 109 | Q01131

Which characters may start a PHP variable identifier immediately after its mandatory $ sign? Select all that apply.

A. letter

B. underscore

C. A digit

D. A space

Hint

Check exact language syntax, declaration rules and execution context before reasoning about the result.

Answer A, B: letter; underscore

A PHP variable begins with a dollar sign followed by a letter or underscore. Digits may occur later in the identifier but may not be the first character after the sigil. A space cannot form that initial identifier character either. The question specifies the position being tested and replaces the vague no-numbers and aggregate wording with concrete candidate characters, allowing both valid initial-character classes to be selected.

Why each choice is right or wrong

A - Correct: A letter is allowed immediately after the dollar sign.

B - Correct: An underscore is also allowed immediately after the dollar sign.

C - Incorrect: A digit may appear later, but cannot start the identifier.

D - Incorrect: A space is not an allowed initial identifier character.

Primary note proof

Study-note section WEB23

> Variables begin with $, then a letter/underscore and subsequent letters/digits/underscores; $AGE18 works but $18AGE does not.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 64 | lines 6-9

> All variables in PHP are denoted with a leading dollar sign ($).
> All variables in PHP start with a leading $ sign. After the initial $, variable names must be composed of letters (uppercase or lowercase), digits (0-9), and underscore characters (_). Furthermore, the first character after the $ may not be a number.

Question sources

Web Programming practice questions · Question 64

Question 110 | Q01132

PHP variables are case-sensitive?

A. True

B. False

C. Only the variable named sum is case-sensitive

D. None of the above

Hint

Check exact language syntax, declaration rules and execution context before reasoning about the result.

Answer A: True

PHP variable names are case-sensitive generally. Two names that differ in letter case can identify different variables, regardless of whether the name is sum or something else. True therefore gives the general rule. False contradicts it, and the sum-only restriction is false because case sensitivity is not limited to that name. None is incorrect because the true general statement is offered.

Why each choice is right or wrong

A - Correct: PHP variable names are case-sensitive as a general rule, exactly as WEB23 states.

B - Incorrect: False contradicts the explicit case-sensitivity rule for PHP variable names.

C - Incorrect: Case sensitivity applies to PHP variable names generally, not only to sum.

D - Incorrect: True is offered and matches the note, so None is not applicable.

Primary note proof

Study-note section WEB23

> Names are case-sensitive.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 64 | lines 6-9

> All variables in PHP are denoted with a leading dollar sign ($).
> All variables in PHP start with a leading $ sign. After the initial $, variable names must be composed of letters (uppercase or lowercase), digits (0-9), and underscore characters (_). Furthermore, the first character after the $ may not be a number.

Question sources

Web Programming practice questions · Question 65

Question 111 | Q01133

In the common PHP teaching taxonomy that counts persistent function-local storage as an additional category alongside visibility categories, how many variable categories are counted?

A. 2

B. 3

C. 1

D. 4

Hint

Identify the role requested and compare it with the definitions and constraints in the cited passages.

Answer B: 3

The stated teaching taxonomy counts local, global and static as three categories. Global and local distinguish visibility, while a static local describes persistence across calls within the execution lifecycle. The question makes this mixed teaching convention explicit rather than treating static storage as an independent visibility scope. Counting only visibility would answer a different question, which is why the narrower numeric choice is now justified.

Why each choice is right or wrong

A - Incorrect: Two counts local/global visibility alone and omits the stated static category.

B - Correct: The specified teaching taxonomy counts local, global and static.

C - Incorrect: One omits the distinctions explicitly included in the taxonomy.

D - Incorrect: No fourth category is included in the stated convention.

Primary note proof

Study-note section WEB25

> Common “three scopes” teaching counts local, global and static, but state the taxonomy.

Study-note section WEB25

> A static local retains its value across calls during the execution lifecycle; static storage is not simply another visibility scope.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 62 | lines 12-18

> PHP provides a large number of predefined variables to any script which it runs.
> PHP provides an additional set of predefined arrays containing variables from the web server the environment, and user input. These new arrays are called superglobals –
> All the following variables are automatically available in every scope.
> - $GLOBALS → Contains a reference to every variable which is currently

available within the global scope of the script. The keys of this array are the names of the global variables.

Question sources

Web Programming practice questions · Question 66

Question 112 | Q01134

choose the incorrect variable name in php?

A. $_AGE

B. $18AGE

C. $AGE18

D. $_AGE18

Hint

Check exact language syntax, declaration rules and execution context before reasoning about the result.

Answer B: $18AGE

PHP variable names may include underscores, letters and digits, but the first character after $ cannot be numeric (p.64). Only $18AGE violates that rule. Evidence: PDF p. 64.

Why each choice is right or wrong

A - Incorrect: Underscore then letters is permitted.

B - Correct: Starts with digit 1 after $, expressly forbidden.

C - Incorrect: Letter start and later digits are permitted.

D - Incorrect: Underscore start and later digits are permitted.

Primary note proof

Study-note section WEB23

> Variables begin with $, then a letter/underscore and subsequent letters/digits/underscores; $AGE18 works but $18AGE does not.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 64 | lines 6-9

> All variables in PHP are denoted with a leading dollar sign ($).
> All variables in PHP start with a leading $ sign. After the initial $, variable names must be composed of letters (uppercase or lowercase), digits (0-9), and underscore characters (_). Furthermore, the first character after the $ may not be a number.

Question sources

Web Programming practice questions · Question 67

Question 113 | Q01135

A variable declared _____ has a GLOBAL SCOPE?

A. outside program

B. inside function

C. outside function

D. None of the Above

Hint

Identify the role requested and compare it with the definitions and constraints in the cited passages.

Answer C: Outside a function

WEB25 directly states that a variable outside a function has global scope. A function's own locals and by-value parameters are separate bindings; functions must explicitly refer to globals through global or $GLOBALS when needed. Outside program is not a declaration location, and inside function describes the ordinary local-binding setting rather than the requested global one.

Why each choice is right or wrong

A - Incorrect: Outside program is not a meaningful place for a declaration within the executing PHP source.

B - Incorrect: Ordinary variables declared inside a function are local to that function, not automatically global.

C - Correct: A declaration outside a function creates a global binding under the rule given in WEB25.

D - Incorrect: Outside function is explicitly offered and matches the global-scope rule.

Primary note proof

Study-note section WEB25

> A variable outside a function has global scope.

Study-note section WEB25

> A function's locals and by-value parameters are separate bindings; use global $x or $GLOBALS["x"] to refer to a global explicitly.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 62 | lines 15-18

> All the following variables are automatically available in every scope.
> - $GLOBALS → Contains a reference to every variable which is currently available within the global scope of the script. The keys of this array are the names of the global variables.

Question sources

Web Programming practice questions · Question 68

Question 114 | Q01136

Which of the following will be output of the following code?

```
<?php
function myTest() {
static $x;
echo $x;
}
myTest();
?>
```

A. 0

B. 1

C. No Output

D. Error

Hint

Trace the bindings and operations in order; preserve the exact string characters and distinguish returned values from emitted output.

Answer C: No output

WEB25 states that an uninitialized static local begins as null and echo emits no characters for it. The function declares static $x but never assigns or increments it, then echoes that null value on its only call. The source is valid, so neither an error nor an assumed numeric initialization is the supported result.

Why each choice is right or wrong

A - Incorrect: The uninitialized static local begins as null; echo does not print an assumed numeric zero.

B - Incorrect: No assignment or increment produces one anywhere in the function.

C - Correct: Echoing the initial null static local emits no output characters.

D - Incorrect: Declaring an uninitialized static local is valid PHP and does not itself produce an error.

Primary note proof

Study-note section WEB25

> An uninitialized static local begins as null, so echo emits no characters.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 64 | lines 13-17

> ➢ Variables can, but do not need, to be declared before assignment.
> ➢ Variables have no intrinsic type other than the type of their current value.
> In PHP, because types are associated with values rather than variables, no such declaration is necessary-the first step in using a variable is to assign it a value.
> ✓ Variables used before they are assigned have default values.

Question sources

Web Programming practice questions · Question 70

Question 115 | Q01137

Which of the following is NOT a super global variable ?

A. $_SERVER

B. $_GLOBAL

C. $_GET

D. $_POST

Hint

Identify the data source or security responsibility precisely, and check whether a combined source or a different control could also qualify.

Answer B: $_GLOBAL

The predefined list includes $_SERVER, $_GET and $_POST, while the global map is $GLOBALS, not $_GLOBAL. B confuses its spelling and is not the listed superglobal. Evidence: PDF p. 62.

Why each choice is right or wrong

A - Incorrect: Explicitly listed.

B - Correct: Wrong spelling for $GLOBALS; not the module superglobal.

C - Incorrect: Explicitly listed.

D - Incorrect: Explicitly listed.

Primary note proof

Study-note section WEB27

> $GLOBALS is the actual global-symbol array; $_GLOBAL is not the built-in name.

Study-note section WEB27

> $_GET contains query parameters; $_POST contains supported form POST data; $_FILES upload metadata; $_SERVER request/environment details; $_COOKIE cookie values; $_SESSION session data after startup.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 62 | lines 12-26

PHP provides a large number of predefined variables to any script which it runs.
PHP provides an additional set of predefined arrays containing variables from the web server the environment, and user input. These new arrays are called superglobals –
All the following variables are automatically available in every scope.
- $GLOBALS → Contains a reference to every variable which is currently available within the global scope of the script. The keys of this array are the names of the global variables.
- $_SERVER → This is an array containing information such as headers, paths, and script locations. The entries in this array are created by the web server. There is no guarantee that every web server will provide any of these. See next section for a complete list of all the SERVER variables.
- $_GET → An associative array of variables passed to the current script via the HTTP GET method.
- $_POST → An associative array of variables passed to the current script via the HTTP POST method.

Question sources

Web Programming practice questions · Question 71

Question 116 | Q01138

Predict the output of the following code snippet :

```
<?php
$i=10;
function sample($i)
{
$i++;
echo $i.",";
}
echo $i.",";
GLOBAL $i;
sample($i);
echo $i;
?>
```

A. 11,11,11

B. 10,11,11

C. 10,11,10

D. 10,10,10

Hint

Trace the bindings and operations in order; preserve the exact string characters and distinguish returned values from emitted output.

Answer C: 10,11,10

WEB25 traces this exact pattern: the initial global print emits 10, the function increments its local by-value parameter to 11, and the caller remains 10 afterward. The source writes commas after the first two values. A top-level GLOBAL statement does not turn the function's parameter into a reference, so the final output is 10,11,10.

Why each choice is right or wrong

A - Incorrect: The first print occurs before any increment and therefore emits ten rather than eleven.

B - Incorrect: The function increments a by-value local parameter, so the final caller value remains ten.

C - Correct: The caller prints ten, the local parameter prints eleven, and the unchanged caller prints ten.

D - Incorrect: The function does increment its local parameter, so the middle output is eleven rather than ten.

Primary note proof

Study-note section WEB25

> If global $i=10 and sample($i) increments/prints its by-value parameter, the caller's $i stays10.

Study-note section WEB25

> A global statement outside the function does not turn its value parameter into a reference.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 72 | lines 7-22

> Function definitions have the following form:
> function function_name([parameter [, ...]])
> {
> // Statements
> }
> That is, function definitions have four parts:
> - A definition starts with the word function.
> - A name follows, which must start with a letter or underscore, followed by
> any number of letters, numbers, or underscores.
> - The parentheses are required.
> - One or more parameters, separated by commas, are optional
> Example:
> function info($name,$age,$salary){

```
echo “name:”.$name.”<br>”;
echo “age:”.$age.”<br>”;
echo “salary:”.$salary.”<br>”; }
```

Web Programming module | PDF page 62 | lines 15-18

All the following variables are automatically available in every scope.
- $GLOBALS → Contains a reference to every variable which is currently available within the global scope of the script. The keys of this array are the names of the global variables.

Web Programming module | PDF page 65 | lines 8-12

Arithmetic Operators:
Arithmetic operators do what you would expect. They are used to perform mathematics. You can use them for the main four operations (plus, minus, multiply, and divide) as well as to find a modulus (the remainder after a division) and to increment or decrement a value.

Question sources

Web Programming practice questions · Question 72

Question 117 | Q01139

Can we change the value of constant during the execution of the script.

A. can

B. can not

C. depends on data type

D. depends on variable

Hint

Check exact language syntax, declaration rules and execution context before reasoning about the result.

Answer B: Cannot redefine the constant during ordinary script execution.

WEB23 says constants cannot normally be redefined during execution. That immutability is the property being tested, rather than whether a variable can receive another value. The offered data-type and variable-dependent alternatives do not override the constant binding rule. Therefore can not is the appropriate general answer in the note’s PHP context.

Why each choice is right or wrong

A - Incorrect: Ordinary constant bindings cannot be reassigned as variables can during script execution.

B - Correct: The note explicitly says constants cannot normally be redefined during execution.

C - Incorrect: The redefinition restriction is a binding rule rather than a choice determined by the constant's data type.

D - Incorrect: A constant's ordinary redefinition rule does not depend on the value of some variable.

Primary note proof

Study-note section WEB23

> Constants cannot normally be redefined during execution.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 48 | lines 19-22

> - Using const keyword → to declare a constant variable we can use const
> instead of var and let. Variables declared with const can not be changed
> once they are declared.
> const PI = 3.14;

Web Programming module | PDF page 72 | lines 2-5

> print("hello world")
> The parenthesis tells php that you are referring to a function. Otherwise, PHP
> thinks you are referencing to a constant. Functions can take any number of arguments,
> including zero

Question sources

Web Programming practice questions · Question 73

Question 118 | Q01167

The element is used to contain characters that should be superscript.

A. a | <sup> v

B. i? <sub> x

C. /@| <ins> x

D. | None of the above x

Hint

Use the element or attribute meaning and document structure, rather than appearance or a similar-looking name.

Answer A: a | <sup> v

Page 16 pairs sub with subscript and sup with superscript. Ignoring the source annotation debris around options, A contains the required sup tag. Evidence: PDF p. 16.

Why each choice is right or wrong

A - Correct: Contains the documented superscript tag.

B - Incorrect: sub is subscript.

C - Incorrect: ins is not the documented superscript form.

D - Incorrect: A provides the required element.

Primary note proof

Study-note section WEB06

> <sub>/<sup> mark sub/superscripts.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 16 | lines 9-12

> sub/sup - define either a subscript or a superscript
> Format: _{...} ; ^{...}
> E.g.
> X₁² + 2X₃

Question sources

Computer Science Exit Exam practice questions · Question 28

Question 119 | Q01168

You can add a horizontal rule between sections using tag of

A. a |
 x

B. i? <hr> v

C. '@| All of the above ><

D. | None of the above x

Hint

Use the element or attribute meaning and document structure, rather than appearance or a similar-looking name.

Answer B: i? <hr> v

The horizontal-rule section explicitly gives <hr>. A br instead inserts a line break, so the all-of-above alternative fails. Evidence: PDF p. 16, PDF p. 15.

Why each choice is right or wrong

A - Incorrect: br is a text line break.

B - Correct: hr is the horizontal rule.

C - Incorrect: Not all: br is a different operation.

D - Incorrect: B supplies the documented tag.

Primary note proof

Study-note section WEB06

> <p> marks paragraphs;
 is a line break and <hr> a thematic break.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 16 | lines 2-8

> • horizontal rule - inserts a horizontal line
> Format: <hr>
> Attributes:
> ✓ width=“width” {absolute: in pixels or relative: in %}
> ✓ noshade
> ✓ color=“color” {browser dependent}
> E.g. <hr width=“75%” noshade color=“#FF0000”>

Web Programming module | PDF page 15 | lines 33-34

> • line break - inserts a new line.
> Format: <br>. E.g., Line one <br> line two <br> line three <br> line four

Question sources

Computer Science Exit Exam practice questions · Question 29

Question 120 | Q01169

An ordered list is created with:

A.

B.

C.

D. None of the above

Hint

Use the element or attribute meaning and document structure, rather than appearance or a similar-looking name.

Answer A:

Ordered lists are explicitly represented by ol on p.19. li marks items inside a list; ul is the unordered container. Evidence: PDF p. 19, PDF p. 19.

Why each choice is right or wrong

A - Correct: Exact ordered-list container.

B - Incorrect: Unordered-list container.

C - Incorrect: An item, not the ordered-list container.

D - Incorrect: A is documented.

Primary note proof

Study-note section WEB08

> Unordered <ul> and ordered <ol> contain <li> items.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 19 | lines 14-22

> II. Ordered Lists (ol) - element represents an ordered list of items - typically
> rendered as a numbered list.
> Format:
>
> ...
> ......
>
> Attribute: type="number type" {1, i, I, a, A}
> E.g. <ol type="i"> book
marker
chalk

Web Programming module | PDF page 19 | lines 2-5

```
<ul>
<li>...</li>
<li>...</li>...
</ul>
```

Question sources

Computer Science Exit Exam practice questions · Question 30

Question 121 | Q01170

Which markup indicates the copyright symbol in HTML?

A. &times

B. &copy

C. &reg

D. &lt

Hint

Use the element or attribute meaning and document structure, rather than appearance or a similar-looking name.

Answer B: ©

WEB06 explicitly includes © among HTML entities. Thus the choice stem &copy identifies the copyright reference; the complete unambiguous spelling includes its semicolon. The other option names refer to different character references rather than copyright. This answer identifies the entity name, not a permission or copyright-policy assertion.

Why each choice is right or wrong

A - Incorrect: The times entity name does not identify the copyright symbol requested in the stem.

B - Correct: The copy entity name identifies copyright; write the full reference as © including the semicolon.

C - Incorrect: The reg entity name is not the copyright reference explicitly identified in WEB06.

D - Incorrect: The lt entity is the less-than reference, not the copyright reference.

Primary note proof

Study-note section WEB06

> Entities include ©, <, > and &.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 15 | lines 2-4

> 2.2.5 HTML Text Formatting tags
> In this section we will see the way HTML can be used to structure a page of text
> by adding headings, paragraphs, emphasizing words, creating lists and more

Question sources

Computer Science Exit Exam practice questions · Question 31

Question 122 | Q01171

In which HTML tag allows you to supply all kinds of information about your web page.

A. a | <head> x

B. i? <meta> v

C. /@| <title> x

D. | <body> x

Hint

Use the element or attribute meaning and document structure, rather than appearance or a similar-looking name.

Answer B: i? <meta> v

The meta section defines meta elements as structured metadata about a web page. head contains metadata elements but is the broader container; title supplies only a title, body the visible content. Evidence: PDF p. 13, PDF p. 12.

Why each choice is right or wrong

A - Incorrect: Broader container, not the metadata element requested.

B - Correct: Exact metadata element.

C - Incorrect: Only supplies page title.

D - Incorrect: Contains visible page content.

Primary note proof

Study-note section WEB06

> Meta charset declares encoding; description summarizes the page; viewport controls mobile viewport behavior.

Study-note section WEB06

> <!DOCTYPE html> selects modern standards mode; <html> is the document root, <head> holds metadata, and <body> contains document content.

Study-note section WEB06

> <title> supplies the page/tab title.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 13 | lines 4-10

> 2.2.2 Meta tag
> Meta elements are tags used in HTML document to provide structured metadata about a web page. This element represents metadata that cannot be represented by

other HTML meta-related elements, like <base>, <link>, <script>, <style> or <title>.
Meta elements are part of a web pages head section. There can be more than one meta element with different attributes on the same web page. In general, meta elements convey hidden information about the document.

Web Programming module | PDF page 12 | lines 6-20

<head>...</head>
- Contains information which is not displayed in the browser display area and may contain other tags in it
- Both the start and end tags may be omitted and inferred from child elements (HTML5)
- The head element may contain other elements such as base, link, meta, style, script, title
<title></title>
- Web browsers usually display it in a window's title bar when the window is open, and (where applicable) in the task bar when the window is minimized.
- Sets the title of the web page to be displayed in the browser's title bar and is found within the <head> tag.
<body></body>
-The body tag contains the visible part of the web page and is displayed in the

Question sources

Computer Science Exit Exam practice questions · Question 32

Question 123 | Q01180

Which of the following is used to add styles and formatting to a webpage in CSS?

A. Functions

B. Variables

C. Selectors

D. Arrays

Hint

Identify which elements a rule targets and distinguish selector syntax from declaration syntax.

Answer C: Selectors

A selector identifies the elements to be styled and its declaration block supplies the styles (p.29). C is the listed mechanism for attaching styling rules to webpage elements. Evidence: PDF p. 29.

Why each choice is right or wrong

A - Incorrect: Functions are not the ruleset component selecting elements.

B - Incorrect: Variables are not the selecting component described.

C - Correct: Selectors identify the targets of CSS rules.

D - Incorrect: Arrays are not a CSS rule component here.

Primary note proof

Study-note section WEB11

> A rule is selector { property: value; }.

Study-note section WEB11

> A selector chooses where declarations apply; it is not itself the property that sets a color.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 29 | lines 8-15

> A selector group and an associated declarations block, together, are called a ruleset, or often a rule. A Cascading Style Sheet (CSS) rule is a statement that defines the style of one or more elements in your web page. These rules follow a specific structure.
> The whole structure is called a ruleset. Note the names of the individual parts:
> Selector -
> This is the HTML element name at the start of the ruleset. It defines the element(s) to be styled.

Question sources

Computer Science model exam 2 · Question 1

Question 124 | Q01200

Using PHP8 standard database extensions, which snippet can issue the shown SELECT against MySQL? Assume $pdo is an initialized PDO connection using the MySQL driver, $conn is an initialized MySQLi connection, and the users table exists.

A. $result = mysql_query("SELECT * FROM users WHERE id = 1");

B. $result=mysqliquery(conn, "SELECT * FROM users WHERE id = 1");

C. $result = $pdo->query("SELECT * FROM users WHERE id = 1");

D. $result = pg_query("SELECT * FROM users WHERE id = 1");

Hint

Identify the API and operation first, then distinguish connection setup, statement execution and result processing.

Answer C: $result = $pdo->query("SELECT * FROM users WHERE id = 1");

With the stated MySQL PDO connection, $pdo->query executes the SELECT and returns its statement object, so C is valid. The old mysql_* extension is removed in PHP8. B misspells mysqli_query and omits the dollar prefix on its connection variable. pg_query belongs to the PostgreSQL extension and does not execute through either stated MySQL connection.

Why each choice is right or wrong

A - Incorrect: mysql_query belongs to the removed mysql_* extension and is not a PHP8 standard MySQL call.

B - Incorrect: The procedural spelling is mysqli_query($conn, ...); the offered name and bare conn do not form that call.

C - Correct: The initialized MySQL-driver PDO connection can execute this SELECT through its query method.

D - Incorrect: pg_query belongs to the PostgreSQL extension rather than the stated MySQL connections.

Primary note proof

Study-note section WEB31

> PHP8 uses MySQLi or PDO; the old mysql_* extension was removed, so migrate older snippets to a supported API.

Study-note section WEB-S04

> With an initialized PDO connection, $pdo->query($sql) executes an SQL statement without placeholders and returns a PDOStatement for processing its results.

Study-note section WEB-S04

> The procedural MySQLi query form is mysqli_query($conn, $sql), using a MySQLi connection and the correctly spelled function name.

Study-note section WEB-S04

> The pg_query function belongs to PHP's PostgreSQL extension; it is not a MySQL connection API.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 80 | lines 2-15

> 5.13.3 Sending Query to MySQL Database using PHP
> A database query from PHP is basically a MySQL command wrapped up in a tiny
> PHP function called mysql_query(). This is where you use the basic SQL workhorses
> of SELECT,
> INSERT, UPDATE, and DELETE, CREATE or DROP a table (but not those to create
> or drop an entire database) can be used with this PHP function.
> Syntax:
> [$resultvar=] mysql_query("query",[link identifier]);

$resultvar - is an optional result variable. This is used when the query is a select statement.
Query - is any valid insert, delete, update, select, create table or drop table statement enclosed by quotes. It is a good habit to hold the query in a separate variable to add flexibility to your code.
Link identifier-is an optional link identifier

Web Programming module | PDF page 80 | lines 16-23

5.13.4 Processing Query Result.
4. Fetching data sets
The result of a query returned by the mysql_query() function is an interger showing the success or failure of the function not the desired data. So you have to use one of the mysql_fetch_..() functions to get the actual result. There are many functions to do so, but the most commonly used ones are- Mysql_fetch_row($result) - this function takes the result of the mysql_query() function as an argument and returns the data as an enumerated array.

Question sources

Computer Science model exam 2 · Question 21

Question 125 | Q01201

Assume document.body exists and element is a newly created, detached div. Which snippet inserts that element into the document body?

A. element.appendChild(document.createTextNode("Hello, world!"));

B. var element = document.createElement("div");

C. document.body.appendChild(element);

D. document.getElementByld("container").appendChild(element);

Hint

Track which node is selected or created, and distinguish changing content from attaching a node.

Answer C: document.body.appendChild(element);

Creating a DOM element and inserting it are separate steps. The question supplies the already-created detached div, so appendChild on document.body performs the required insertion. Creating another div would leave it detached, and appending a text node changes the contents of an existing element rather than inserting that element into the body. The final choice retains the incorrect lookup spelling, which fails instead of providing the required insertion.

Why each choice is right or wrong

A - Incorrect: This adds a text node inside element, leaving element detached.

B - Incorrect: This creates another detached div rather than inserting it.

C - Correct: This attaches the supplied div to the existing document body.

D - Incorrect: getElementByld is misspelled and is not the documented lookup method.

Primary note proof

Study-note section WEB20

> Creation alone does not insert it.

Study-note section WEB20

> createTextNode makes text; appendChild attaches an existing node.

Study-note section WEB20

> getElementByld with a lowercase l replacing I is a different, nonexistent method.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 52 | lines 3-20

> 4.10 JavaScript DOM (Document object Model)
> The Document Object Model (DOM) is the data representation of the objects that comprise the structure and content of a document on the web. The Document Object Model (DOM) is a programming interface for web documents. It represents the page so that programs can change the document structure, style, and content. The DOM represents the document as nodes and objects; that way, programming languages can interact with the page.
> 4.10.1 Accessing HTML elements in JavaScript
> In the DOM Api, there are different methods to get access to HTML elements. We will list the available methods here, but only the most recent methods are covered here.
> - getElementById(id) returns an element with that specific ID
> - getElmentsByClassName(class) returns elements with that specific class
> getElementsByTagName(tag) returns elements with the given tag name
> - querySelector(selector) → The Document method querySelector() returns the first Element within the document that matches the specified selector, or group of selectors. If no matches are found, null is returned.
> element = document.querySelector(selectors);

Question sources

Computer Science model exam 2 · Question 22

Question 126 | Q01221

Which of the following is used to include an external JavaScript file in an HTML document?

A. <script href="file.js"></script>

B. <link rel="stylesheet" href="file.js">

C. <script type="text/javascript" src="file.js"></script>

D. <link rel="stylesheet" type="text/javascript" href="file.js">

Hint

Identify which elements a rule targets and distinguish selector syntax from declaration syntax.

Answer C: <script type="text/javascript" src="file.js"></script>

The module external-file syntax uses a script element with src pointing to script.js. C uses this structure; stylesheet link elements do not load executable script in that example. Evidence: PDF p. 45, PDF p. 29.

Why each choice is right or wrong

A - Incorrect: href is not the script source attribute shown.

B - Incorrect: Links as stylesheet instead of script.

C - Correct: Uses script and src as required.

D - Incorrect: Still links as a stylesheet rather than script.

Primary note proof

Study-note section WEB15

> Use <script src="app.js"></script> for an external .js file; script content has no HTML closing-tag syntax inside its JavaScript source.

Study-note section WEB11

> An external sheet uses <link rel="stylesheet" href="styles.css"> in head; an internal sheet uses style; an inline declaration uses an element’s style attribute.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 45 | lines 12-14

> - We can also include JavaScript as an external file. We can use a similar syntax
> like the internal and add the src attribute. Here is how
> <script src="script.js" defer></script>

Web Programming module | PDF page 29 | lines 2-6

> E.g.
> <link rel="stylesheet" href="style.css">

The rel attributes names the relationship of the linked document to the current document. The href attribute specifies the URL of the linked document. The URL can be relative or absolute

Question sources

Computer Science model exam 2 · Question 42

Question 127 | Q01224

Which of the following is used to define the structure of a webpage in HTML?

A. Tags

B. Classes

C. IDs

D. Styles

Hint

Identify which elements a rule targets and distinguish selector syntax from declaration syntax.

Answer A: Tags

HTML tags delimit elements that establish content structure (pp.10-11). Classes and IDs identify elements, while styles concern presentation. Evidence: PDF p. 10, PDF p. 11.

Why each choice is right or wrong

A - Correct: Tags form structural elements.

B - Incorrect: Identifiers do not replace structural tags.

C - Incorrect: Unique identifiers do not replace structural tags.

D - Incorrect: Presentation rather than the HTML structural mechanism.

Primary note proof

Study-note section WEB06

Tags mark boundaries; an element includes content and attributes, or is a void element such as img.

Study-note section WEB11

Type p selects paragraph elements, .notice selects a class, #logo an ID, h1,h2 groups selectors, nav ul selects descendants and nav>ul direct children.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 10 | lines 9-16

> HTML (HyperText Markup Language) is the most basic building block of the Web.
> HTML is not a programming language rather it is a markup language that tells web browsers how to structure the web page. HTML consists of a series of elements, which you use to enclose, wrap or markup different parts of content to make it appear or act in a certain way.
> HTML defines the meaning and structure of web content. Other technologies besides HTML are generally used to describe a web page's appearance/presentation (CSS) or functionality/ behavior (JavaScript).

Web Programming module | PDF page 11 | lines 11-17

> 2.2 HTML Tags
> In HTML, a tag is used for creating an element. Tags are used to delimit the start and end of elements in the markup. Normal html elements have a start tag to indicate where they begin, and an end tag to indicate where they end. The start and end tags of certain normal elements can be omitted. An HTML tag is composed of the name of the element, surrounded by angle brackets (<>). An end tag also has a slash after the opening angle bracket, to distinguish it from the start tag.

Question sources

Computer Science model exam 2 · Question 45

Question 128 | Q01235

Which PHP mechanisms can participate in generating dynamic content and server-side processing? Select all that apply.

A. Functions

B. Variables

C. Classes

D. Objects

Hint

Identify the role requested and compare it with the definitions and constraints in the cited passages.

Answer A, B, C, D: Functions; Variables; Classes; Objects

Dynamic PHP responses can combine values, reusable behavior and object-based structures. Variables hold incoming or computed data; functions carry out processing; classes define application state and behavior; objects are instances used by that logic. None of these mechanisms alone defines dynamic PHP, but each can participate in it. The revised wording therefore asks for all contributors rather than forcing one exclusive mechanism from four compatible choices.

Why each choice is right or wrong

A - Correct: Functions can process inputs and return values or produce output.

B - Correct: Variables hold request data and computed values used in a response.

C - Correct: Classes define state and behavior for server application logic.

D - Correct: Objects instantiate classes and can participate in generating responses.

Primary note proof

Study-note section WEB26

A function can receive arguments, return a value, or produce output; classes/objects/variables also support server processing, so no single one of these mechanisms alone defines “dynamic PHP.” Use braces to make nesting explicit.

Study-note section WEB33

A class defines properties/methods; new creates an object, $obj->field accesses a property, and $obj->method() calls a method.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 60 | lines 4-16

PHP is a server-side scripting language, which can be embedded in HTML or used as a standalone binary (although the former use is much more common). PHP stands for Hypertext Preprocessor. The product was originally named Personal Home Page Tools, and many people still think that is what the acronym stands for. But as it expanded in scope, a new and more appropriate name was selected by community vote. PHP is the language that you use to make the server generate dynamic output-output that is potentially different each time a browser re-quests a page.
Client-side scripting is the glamorous, eye-catching part of Web development. In contrast, server-side scripting is invisible to the user. Server-side Web scripting is mostly about connecting Web sites to back-end servers, such as databases. This enables the following types of two-way communication:
➢ Server to client: Web pages can be assembled from back end-server output.
➢ Client to server: Customer-entered information can be acted upon.

Web Programming module | PDF page 71 | lines 23-30

5.9 PHP Functions
A function is a set of statements that performs a particular function and-optionally-returns a value. Functions have many advantages
- Involve less typing
- Reduce syntax and other programming errors
- Decrease the loading time of program files
PHP comes with hundreds of ready-made functions. You have seen some of them like print, echo, count, sizeof

Web Programming module | PDF page 85 | lines 13-18

Object-oriented programming (OOP) opens the door to cleaner designs, easier maintenance, and greater code reuse. In php OOP we use the term class, which refers

to a template for building objects. And an object is an instance of a class. The data associated with an object are called its properties. The functions associated with an object are called its methods. When you define a class, you define the names of its properties and give the code for its methods.

Web Programming module | PDF page 62 | lines 3-10

Variables are used to store data, like string of text, numbers, etc. Variable values can change over the course of a script. Here're some important things to know about variables:
- In PHP, a variable does not need to be declared before adding a value to it. PHP automatically converts the variable to the correct data type, depending on its value.
- After declaring a variable, it can be reused throughout the code.
- The assignment operator (=) used to assign value to a variable.

Question sources

Computer Science model exam 2 · Question 56

Question 129 | Q01236

Which of these JavaScript libraries, frameworks or platforms can contribute to interactive web interfaces when combined with suitable responsive layout and styling? Select all that apply.

A. jQuery

B. React

C. Angular

D. Vue.js

Hint

Match the stated application requirement to the capabilities and category of each technology.

Answer A, B, C, D: jQuery; React; Angular; Vue.js

jQuery supports DOM operations, React builds component interfaces, and Angular and Vue also support interactive interfaces. Their categories differ, but the revised question includes libraries, frameworks and platforms rather than treating those terms as exclusive. Responsive behavior additionally requires appropriate layout and styling; it is not guaranteed by choosing one name. Each listed technology can contribute under that condition, so all four choices are valid.

Why each choice is right or wrong

A - Correct: jQuery can provide DOM interaction while layout rules handle responsive presentation.

B - Correct: React components can implement interactive interfaces with responsive styles.

C - Correct: Angular supplies component-based application capabilities.

D - Correct: Vue can build interactive interfaces and use responsive layout styles.

Primary note proof

Study-note section WEB38

> jQuery simplifies DOM operations; React builds component interfaces; Angular is a component platform, distinct from older AngularJS; Vue also builds interactive interfaces.

Study-note section WEB38

> Each can contribute to a responsive interface, so those generic descriptions do not identify one unique framework.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 94 | lines 14-17

> d. React.js
> React.js is an open-source front-end JavaScript library for building user interfaces based on UI components. React builds encapsulated component that manage their own state, then compose them to complex UIs. To build for the web, developers use

Web Programming module | PDF page 93 | lines 12-19

> c. Angular.js
> Angular is a development platform, built on TypeScript. As a platform, Angular includes:
> 1. A component-based framework for building scalable web applications
> 2. A collection of well-integrated libraries that cover a wide variety of features, including routing, forms management, client-server communication, and more
> 3. A suite of developer tools to help you develop, build, test, and update your code

Web Programming module | PDF page 91 | lines 28-31

> 2. Many of Bootstrap components require the use of JavaScript to function.
> Specifically, they require jQuery, Popper.js, and boostrap JavaScript plugins.
> Follow this order when including the JS files
> - JQuery

Question sources

Computer Science model exam 2 · Question 57

Question 130 | Q01239

Which snippet applies a one-column card layout only when the viewport is at most 600 CSS pixels wide?

A. @media (max-width: 600px) { .cards { grid-template-columns: 1fr; } }

B. .container { display: flex; }

C. box { transform: rotate(45deg); }

D. .menu { background-color: #f00; }

Hint

Identify the requested presentation effect and layout context before matching the property or rule.

Answer A: @media (max-width: 600px) { .cards { grid-template-columns: 1fr; } }

The required behavior depends on viewport width, so the rule must contain the appropriate media condition and a concrete layout declaration. max-width:600px applies at or below that width, and the single 1fr track makes the card grid one column. A plain flex declaration does not express this breakpoint or column requirement. Rotation and background color affect appearance without implementing the requested conditional layout.

Why each choice is right or wrong

A - Correct: The media condition and one-track declaration implement the stated breakpoint behavior.

B - Incorrect: This does not specify the requested viewport condition or card-grid track count.

C - Incorrect: Rotation does not create the conditional one-column layout.

D - Incorrect: A background color does not alter the grid at the required breakpoint.

Primary note proof

Study-note section WEB14

> Responsive design combines flexible layout, images, viewport metadata and media queries, for example @media(max-width:600px){.cards{grid-template-columns:1fr}}.

Study-note section WEB14

> Grid organizes rows and columns with explicit tracks, such as grid-template-columns:1fr 2fr.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 37 | lines 15-18

> Display
> The display CSS property sets whether an element is treated as a block or inline element and the layout used for its children, such as flow layout, grid or flex.
> Formally, the display property sets an element's inner and outer display types. The

Web Programming module | PDF page 91 | lines 6-13

> Now a days the website you build has to support all browser types and all sizes of screen (Desktop, Tablets, Phones etc..). To make that possible we use different frameworks. This part of the chapter will introduce you to the Bootstrap framework.
> Bootstrap is a free front end framework for faster and easier web development.
> It is s an open-source tool collection for creating responsive websites and web applications. It is the most popular HTML, CSS, and JavaScript framework for developing responsive, mobile-first websites.

Web Programming module | PDF page 34 | lines 4-10

> The background shorthand CSS property sets all background style properties at once, such as color, image, origin and size, or repeat method. You have also specific background properties that you can apply like background-color, background-image etc.
> To set the background-color of an element and provide the value of the color in different form.
> 1. Keyword values -> red, blue

Question sources

Computer Science model exam 2 · Question 60

Question 131 | Q01244

Which of the following is used to store user data on the server-side in web applications?

A. Cookies

B. Sessions

C. Local storage

D. IndexedDB

Hint

Follow the identifier and server-side state through the stated lifecycle or access check; distinguish client-controlled claims from server decisions.

Answer B: Sessions

In conventional server-backed sessions, the browser normally keeps an opaque identifier and the user’s session data resides in server-controlled storage. Cookies, localStorage and IndexedDB instead retain data on the client side. Client storage may participate in an application design, but it is not the server-side session-data store requested. Sessions therefore match the stated location.

Why each choice is right or wrong

A - Incorrect: Cookies hold browser-side values; a session cookie normally carries an identifier rather than the server’s session-data store.

B - Correct: A server-backed session keeps the user's session data in server-controlled storage.

C - Incorrect: localStorage retains origin-specific strings in browser storage rather than storing the server's session data.

D - Incorrect: IndexedDB is structured local browser storage rather than the server's session-data store.

Primary note proof

Study-note section WEB29

> Normally the browser holds an opaque session identifier while data resides in server-controlled storage.

Study-note section WEB28

> Cookies are browser-held name/value data automatically attached to matching requests subject to domain, path, expiry, Secure and SameSite rules.

Study-note section WEB28

> localStorage persists origin-specific string values across sessions until removed/cleared; sessionStorage is scoped to a page session/tab.

Study-note section WEB28

> IndexedDB supplies structured local storage.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 76 | lines 2-5

> in one application. A PHP session allows you to store user information on the server for later use (i.e., username, shopping items, etc.). However, session information is temporary and will be deleted after the user has left the website. If you need a permanent storage you may want to store the data in a database.

Web Programming module | PDF page 58 | lines 12-19

> Cookies let you store user information in web pages.
> What are Cookies?
> Cookies are data, stored in small text files, on your computer.
> When a web server has sent a web page to a browser, the connection is shut down, and the server forgets everything about the user. Cookies were invented to solve the problem "how to remember information about the user":
> When a user visits a web page, his/her name can be stored in a cookie.
> Next time the user visits the page, the cookie "remembers" his/her name.

Question sources

Computer Science model exam 2 · Question 65

Question 132 | Q01515

Identify the function in JavaScript which is used to send messages to users requesting for text input?

A. getInput()

B. alert()

C. prompt ()

D. display()

Hint

Distinguish the browser object or dialog role from the kind of response it collects.

Answer C: prompt ()

Prompt displays a modal asking for text input; alert is an informational popup. C names the documented text-input operation. Evidence: PDF p. 46, PDF p. 47.

Why each choice is right or wrong

A - Incorrect: Not the documented input function.

B - Incorrect: Informational popup, not text entry.

C - Correct: Exact text-input function.

D - Incorrect: Not the documented input function.

Primary note proof

Study-note section WEB22

> alert displays information, confirm returns a Boolean, and prompt requests text or returns null on cancellation.

Study-note section WEB-S03

> Alert is a notification; confirm additionally asks for an OK/Cancel decision, while prompt additionally offers a text field.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 46 | lines 16-20

> Accepting user input in JavaScript actually is not a difficult task. JavaScript has a function called prompt, which is used to accept input from the user. But for the result to be useful for us, it has to be stored in a variable. Here is a simple example
> var name = prompt("Enter your name: ");
> alert("Hello " + name);

Web Programming module | PDF page 47 | lines 2-2

> 2. Alert: shows a browser pop up with the information inside the parenthesis

Question sources

Mock exam 1 · Question 31

Question 133 | Q01516

In HTML, which attribute is used to create a link that opens in a new window tab?

A. src="_blank"

B. target="_self"

C. target="_blank"

D. src="_self"

Hint

Use the element or attribute meaning and document structure, rather than appearance or a similar-looking name.

Answer C: target="_blank"

WEB07 says _blank targets a new browsing context, while _self uses the current one. Therefore target="_blank" is the offered attribute-value pair for a new tab or window. Browser preferences determine whether the new context appears as a tab or window, so the markup does not force that UI distinction. src does not select a link target context.

Why each choice is right or wrong

A - Incorrect: src does not select the browsing context where an anchor link is opened.

B - Incorrect: The _self target uses the current context rather than requesting a new one.

C - Correct: The _blank target requests a new context; browser preferences decide whether that is a tab or window.

D - Incorrect: src is not the target attribute, and _self would indicate the current context anyway.

Primary note proof

Study-note section WEB07

> target="_self" uses the current context, _blank a new context, _parent its parent and _top the top-level context.

Study-note section WEB07

> Browser preferences determine tab versus window.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 14 | lines 5-9

> In HTML, a link is created by wrapping the text or other content inside an <a> tag (anchor tag) and using the href attribute, also known as Hypertext reference, or target

that contains the web address.
Here is an example of a link to the google website
Google.

Web Programming module | PDF page 21 | lines 29-31

1. application/x-www-form-urlencoded → most common and used from simple scenarios
2. mutlipart/form-data → used to upload binary data

Question sources

Mock exam 1 · Question 32

Question 134 | Q01517

In which HTML element, we put the JavaScript code using?

A. <javascript>...</javascript>

B. <script>...</script>

C. <js>...</js>

D. <css>...</css>

Hint

Check exact language syntax, declaration rules and execution context before reasoning about the result.

Answer B: <script>...</script>

Page 45 encloses JavaScript between script and /script. None of the invented javascript, js or css element names matches that example. Evidence: PDF p. 45.

Why each choice is right or wrong

A - Incorrect: Not the shown element.

B - Correct: Exact enclosing element.

C - Incorrect: Not the shown element.

D - Incorrect: CSS is presentation and this is not the script element.

Primary note proof

Study-note section WEB15

> Use <script src="app.js"></script> for an external .js file; script content has no HTML closing-tag syntax inside its JavaScript source.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 45 | lines 2-8

> <script>
> // JavaScript code goes here
> </script>
> - Internal JavaScript is one way of including JavaScript using the script tag inside our HTML document. We can use the above syntax to include it anywhere in our document. The best place to include a JavaScript file is before the end of body tag </body>.

Question sources

Mock exam 1 · Question 33

Question 135 | Q01609

Which of the following CSS style property is used to specify an italic text?

A. font-weight

B. font-family

C. font-size

D. font-style

Hint

Identify the requested presentation effect and layout context before matching the property or rule.

Answer D: font-style

The font property list distinguishes font-style, font-weight, font-family and font-size; its example uses italic (pp.34-35). The style component corresponds to italic, rather than weight, family or size. Evidence: PDF p. 34, PDF p. 35.

Why each choice is right or wrong

A - Incorrect: Weight concerns heaviness, not the style component named in the list.

B - Incorrect: Family names the typeface, not italic style.

C - Incorrect: Size sets dimensions rather than italic style.

D - Correct: Style is the named italic-related font component.

Primary note proof

Study-note section WEB13

> color sets text color; background-color sets background; font-size size, font-family face, font-style italic, font-weight weight, text-align inline-content alignment, and text-decoration effects such as underline.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 34 | lines 21-31

> 3.3.2 Font and Text Properties
> The font CSS shorthand property sets all the different properties of an element's font. Alternatively, it sets an element's font to a system font. The property is a shorthand for the following properties
> - font-family
> - font-size
> - font-stretch
> - font-style
> - font-variant

- font-weight
- line-height

Web Programming module | PDF page 35 | lines 2-2

font: italic 1.2em "Fira Sans", serif;

Question sources

Mock exam 3 · Question 41

Question 136 | Q01610

Which of the following function is used to create a session?

A. isset()

B. $_SESSION()

C. session_destroy()

D. session_start()

Hint

Follow the identifier and server-side state through the stated lifecycle or access check; distinguish client-controlled claims from server decisions.

Answer D: session_start()

The Starting a PHP Session example calls session_start() before storing data. $_SESSION stores data; session_destroy removes it; isset tests presence. Evidence: PDF p. 76, PDF p. 77, PDF p. 73.

Why each choice is right or wrong

A - Incorrect: Presence test, not startup.

B - Incorrect: SESSION is the storage array, not initializer function.

C - Incorrect: Destroys instead of starting.

D - Correct: Exact session startup function.

Primary note proof

Study-note section WEB29

session_start() starts/resumes PHP session handling and makes $_SESSION available.

Study-note section WEB-S09

session_destroy() removes the data associated with the current PHP session.

Study-note section WEB27

isset tests existence and non-null, not truth or valid syntax.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 76 | lines 6-23

Starting a PHP Session
Before you can store user information in your PHP session, you must first start up the session.
<?php session_start(); ?>
<html>
<body>.....
</body>
</html>
The code above will register the user's session with the server, allow you to start saving user information, and assign a UID for that user's session.
Storing a Session Variable
The correct way to store and retrieve session variables is to use the PHP $_SESSION variable:
<?php
session_start();
// store session data
$_SESSION['views']=1;

Web Programming module | PDF page 77 | lines 5-16

Destroying a Session
If you wish to delete some session data, you can use the unset() or the session_destroy() function. The unset() function is used to free the specified session variable:
<?php
unset($_SESSION['views']);
?>
You can also completely destroy the session by calling the session_destroy() function:
<?php
session_destroy();
?>
session_destroy() will reset your session and you will lose all your stored session data.

Web Programming module | PDF page 73 | lines 9-10

• isset(): This function is used to determine whether the variable or a form control is having a value or not.

Question sources

Mock exam 3 · Question 42

Question 137 | Q01611

Which of the following is the correct output for the following JavaScript code:
function check(option) {
return(option ? "true" : "false");
}
bool ans=true;
console.log(check(ans));

A. false

B. Runtime Error

C. true

D. Compilation Error

Hint

Track the value and type at each operation, applying the stated conversion, indexing or mathematical rule.

Answer D: Parse-time syntax error, described by the option as Compilation Error.

WEB19 explicitly states that bool ans=true is not a JavaScript declaration. Parsing fails before check(ans) is called, so neither string result is logged. Replacing bool with let would make the conditional return "true", but that is a different program. D is the closest offered category for the source's parse-time failure rather than a runtime exception.

Why each choice is right or wrong

A - Incorrect: The conditional function is never executed because the declaration prevents successful parsing.

B - Incorrect: The failure occurs during parsing, before a running program could raise a runtime error.

C - Incorrect: true would follow only after repairing bool to a valid JavaScript declaration keyword.

D - Correct: Compilation Error is the offered label closest to the actual parse-time SyntaxError.

Primary note proof

Study-note section WEB19

> bool ans=true is not JavaScript declaration syntax; use let ans=true.

Study-note section WEB-S05

> A syntax error prevents source from being parsed successfully.

Study-note section WEB17

> A condition ? x : y chooses one branch.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 48 | lines 6-22

4.5.2 Variable declaration in JavaScript
Variables are used to store this information. A variable is a “named storage” for data. We can use variables to store goodies, visitors, and other data. We have three ways of creating variables in JavaScript
- Using the let keyword → the following statement declares a variable
let message;
now we can put values using the assignment operator (=)
- Using var keyword → we can also declare variable using the var keyword in a similar fashion as let. There is a subtle difference between declaring a variable using var and let. Variables declared with var are hoisted where as those declared with let are not. The other difference between var and let is variables declared with let has a block level scope unlike that of var. Variables declared with var have function level scope
- Using const keyword → to declare a constant variable we can use const instead of var and let. Variables declared with const can not be changed once they are declared.
const PI = 3.14;

Web Programming module | PDF page 50 | lines 15-18

Ternary Operators:
Ternary operator is represented by a question mark “?”. We can use ternary operator to perform conditional operations like if-else statement
let result = condition ? value1 : value2;

Question sources

Mock exam 3 · Question 43

Question 138 | Q01651

What makes AJAX unique?

A. It works the same with all web browsers

B. It works as a stand-alone web-development tool

C. It uses C++ as its programming language

D. It makes data requests asynchronously

Hint

Identify the execution side and communication pattern, keeping runtime, transport, data format and callback roles distinct.

Answer D: It makes data requests asynchronously

AJAX is expressly asynchronous and exchanges data with the server without refreshing the page. It combines XML, HTML, CSS and JavaScript rather than being a standalone language/tool. Evidence: PDF p. 89.

Why each choice is right or wrong

A - Incorrect: All-browser identity is not the stated distinguishing feature.

B - Incorrect: Contradicts use of several cooperating technologies.

C - Incorrect: The documented scripting language is JavaScript, not C++.

D - Correct: Exact asynchronous-request distinction.

Primary note proof

Study-note section WEB34

> AJAX means Asynchronous JavaScript and XML, but responses can be JSON, text, HTML or XML.

Study-note section WEB34

> It is a technique, not a language, standalone framework or mandatory XML protocol.

Study-note section WEB02

> Open standards do not guarantee identical support for every feature in every browser.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 89 | lines 4-13

> AJAX is a web development technique for creating interactive web applications.
> AJAX stands for Asynchronous JavaScript and XML. It can send and receive information in various formats, including JSON, XML, HTML, and text files. AJAX is a new technique for creating better, faster, and more interactive web applications with the help of XML, HTML, CSS, and Java Script. AJAX's most appealing characteristic is its "asynchronous" nature, which means it can communicate with the server, exchange data, and update the page without having to refresh the page.
> The two major features of AJAX allow you to do the following:
> - Make requests to the server without reloading the page
> - Receive and work with data from the server

Question sources

Mock exam 2 · Question 40

Question 139 | Q01652

Which of the following attribute is used for merging two or more adjacent columns?

A. COLSPAN

B. CELLPADDING

C. CELLSPACING

D. ROWSPAN

Hint

Use the element or attribute meaning and document structure, rather than appearance or a similar-looking name.

Answer A: COLSPAN

Page 18 says colspan and rowspan span columns and rows respectively. Merging adjacent columns requires colspan. Evidence: PDF p. 18.

Why each choice is right or wrong

A - Correct: Columns are explicitly the colspan role.

B - Incorrect: Not the merging attribute identified.

C - Incorrect: Not the merging attribute identified.

D - Incorrect: Spans rows instead of columns.

Primary note proof

Study-note section WEB08

> colspan spans columns; rowspan spans rows.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 18 | lines 15-19

> If you have a reason to merge columns or rows or the website you are building needs this functionality you can use the colspan and rowspan attribute to do so. These attributes are used to span two or more columns or rows respectively. Both colspan and rowspan takes unitless numbers that specifies the number of columns and rows you want to span

Question sources

Mock exam 2 · Question 41

Question 140 | Q01653

Which of the following CSS selector is used to specify a rule to bind a particular unique element?

A. Class

B. Tag

C. Id

D. Name

Hint

Identify which elements a rule targets and distinguish selector syntax from declaration syntax.

Answer C: Id

The module ID selector example targets a specific element, whereas type and class selectors can target groups. C matches the unique identifier requirement. Evidence: PDF p. 31.

Why each choice is right or wrong

A - Incorrect: Class selection can group elements.

B - Incorrect: Type selection applies to all elements of that type.

C - Correct: ID selects the particular identified element.

D - Incorrect: Name is not the unique ID selector described.

Primary note proof

Study-note section WEB11

> Type p selects paragraph elements, .notice selects a class, #logo an ID, h1,h2 groups selectors, nav ul selects descendants and nav>ul direct children.

Study-note section WEB07

> Attributes belong in opening tags, with unique IDs when used for document identification.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 31 | lines 5-24

> 2. Class selector -> The element(s) on the page with the specified class. Multiple instances of the same class can appear on a page. We use the . (dot) symbol and the name of the class to use it as a selector in css
> 3. Id selector -> The element on the page with the specified ID. On a given HTML page, each id value should be unique. We use # (hashtag) symbol and the name of the id as a selector
> 4. Attribute Selector -> The element(s) on the page with the specified attribute.
> 5. Pseudo-class selector -> The specified element(s), but only when in the

specified state. (For example, when a cursor hovers over
a link.)
Q. Read in detail the above ways of selectors it's definition, advantage, syntax and examples for each?
3.2.1 Style Inheritance
In CSS, inheritance controls what happens when no value is specified for a property on an element. CSS uses the document tree for inheritance, in which an element applied to an element is inherited by its descendants.
CSS properties can be categorized in two types:
- Inherited properties - which by default are set to the computed value of

Question sources

Mock exam 2 · Question 42

Question 141 | SM0005

Which statement about ordinary JavaScript functions and identifiers is true?

A. Function names can contain spaces

B. Function names are not case-sensitive

C. Functions can be passed to and stored by other code like other values

D. Function names can begin with digits

Hint

Check exact language syntax, declaration rules and execution context before reasoning about the result.

Answer C: Functions can be passed to and stored by other code like other values

JavaScript functions are values that can be passed as arguments or stored for later use. Identifier rules still apply to ordinary function names: names are case-sensitive, cannot contain spaces and cannot begin with a digit. The true choice tests a supported function property instead of making an unrestricted claim about the number of parameters. Runtime argument limits therefore do not affect the correctness of this version.

Why each choice is right or wrong

A - Incorrect: Spaces are not permitted inside an ordinary function identifier.

B - Incorrect: Identifier names are case-sensitive.

C - Correct: Functions can be stored and passed as values.

D - Incorrect: An ordinary function identifier cannot start with a digit.

Primary note proof

Study-note section WEB15

Identifiers are case-sensitive and may start with letters, underscore or $, not digits or spaces.

Study-note section WEB19

function f(x){return x*2;} has a parameter and returns a value; functions can be passed/stored like other values.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 51 | lines 18-35

4.9 JavaScript Functions
Functions are the main “building blocks” of the program. They allow the code to be called many times without repetition. To create a function, we can use a function declaration.
function showCSMessage() {
alert('Hello CS Students!');
}
To create a function, first we use the function keyword then the function name.
There are times when we remove the function name. This type Functions without a function name are called anonyms functions.
After the function name we optionally put parameters in between the parenthesis, if we don’t have parameters, we always have to put the empty parenthesis and then finally the block of code to be executed.
An arrow function expression is a compact alternative to a traditional function expression, but is limited and can't be used in all situations.
Syntax:
param => expression
Multiple params require parentheses.

Question sources

MOE Computer Science Exit Exam · Question 2-1

National Computer Science Exit Exam · Question 4

National Computer Science Exit Exam

MOE Computer Science Exit Exam

Computer Science Exit Exam practice collection · Question 20

Question 142 | SM0014

Look at the following PHP line: $list = array(20, 12, 23, 19, 18); What is the index of data value 19?

A. 2

B. 0

C. 3

D. 1

Hint

Identify the role requested and compare it with the definitions and constraints in the cited passages.

Answer C: 3

PHP numeric array examples start at index zero. In the ordered list, 20 is index 0, 12 is 1, 23 is 2, 19 is 3 and 18 is 4. Evidence: PDF p. 69, PDF p. 70.

Why each choice is right or wrong

A - Incorrect: Index 2 holds 23.

B - Incorrect: Index 0 holds 20.

C - Correct: Index 3 holds 19.

D - Incorrect: Index 1 holds 12.

Primary note proof

Study-note section WEB26

> Numeric arrays start at index0 unless keys are supplied: [20,12,23,19,18] has19 at index3.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 69 | lines 14-15

```
<?php
$array1 = array("Item 1", "Item 2", "Item 3", "Item 4");
```

Web Programming module | PDF page 70 | lines 2-8

```
We can also create arrays by adding the index of the item in between the square
brackets. This will enable us to add items in unorderly fashion
<?php
$sample[0] = "sample 1";
$sample[1] = "sample 2";
$sample[2] = "sample 3";
$sample[3] = "sample 4";
```

Question sources

MOE Computer Science Exit Exam · Question 4-2

National Computer Science Exit Exam · Question 18

National Computer Science Exit Exam

Computer Science Exit Exam practice collection · Question 21

Question 143 | SM0039

Which option is a complete, valid PHP variable-assignment statement inside an open PHP block? No closing PHP tag follows the option to supply an implicit terminator.

A. $test = 9.5

B. $test = "This is 'Computer science'";

C. $test = "Computer;

D. test = 5;

Hint

Check exact language syntax, declaration rules and execution context before reasoning about the result.

Answer B: $test = "This is 'Computer science'";

The balanced double-quoted assignment is complete: it has a dollar-prefixed variable, a matching closing quote and a semicolon. Single quotes inside double quotes are ordinary string characters. The numeric assignment lacks its required semicolon in the stated context, another option has an unterminated string, and the bare test name is not a PHP variable.

Why each choice is right or wrong

A - Incorrect: This is an assignment expression but lacks the semicolon required for a complete statement in the stated context.

B - Correct: The variable name, balanced double quotes and terminating semicolon make a complete assignment.

C - Incorrect: The opening double quote has no matching closing delimiter.

D - Incorrect: A PHP variable must have its dollar prefix; bare test does not name that variable.

Primary note proof

Study-note section WEB23

> Variables begin with $, then a letter/underscore and subsequent letters/digits/underscores; $AGE18 works but $18AGE does not.

Study-note section WEB-S06

> A complete ordinary PHP assignment statement ends with a semicolon.

Study-note section WEB-S06

A string’s closing delimiter must match its opening delimiter; a single quote can appear inside a double-quoted string without ending it.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 62 | lines 27-33

In PHP user defined variable can be declared as:
$var_name = value;
Example
<?php
// Declaring variables
$txt = "Hello World!";
$number = 10;

Web Programming module | PDF page 64 | lines 6-12

All variables in PHP are denoted with a leading dollar sign ($).
All variables in PHP start with a leading $ sign. After the initial $, variable names must be composed of letters (uppercase or lowercase), digits (0-9), and underscore characters (_). Furthermore, the first character after the $ may not be a number.
➢ The value of a variable is the value of its most recent assignment.
➢ Variables are assigned with the = operator, with the variable on the left-hand side and the expression to be evaluated on the right.

Web Programming module | PDF page 61 | lines 28-29

echo "Hello World!";
?>

Question sources

MOE Computer Science Exit Exam · Question 12-1

National Computer Science Exit Exam · Question 53

National Computer Science Exit Exam

Computer Science Exit Exam practice collection · Question 22

Question 144 | SM0068

Which one of the following is the smallest heading tag?

A. <H6>

B. <H3>

C. <H4>

D. <H1>

Hint

Use the element or attribute meaning and document structure, rather than appearance or a similar-looking name.

Answer A: <H6>

The module explicitly calls h1 largest and h6 smallest among the default heading formats. A therefore identifies the smallest default heading. Evidence: PDF p. 15.

Why each choice is right or wrong

A - Correct: h6 is explicitly smallest.

B - Incorrect: h3 is not the smallest.

C - Incorrect: h4 is not the smallest.

D - Incorrect: h1 is explicitly largest.

Primary note proof

Study-note section WEB06

> Heading levels h1-h6 express hierarchy, with h6 conventionally smallest in default styling, not a mandatory CSS size.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 15 | lines 5-10

> Headings -
> Headings are predefined formats for text presentation and there are six heading formats defined in HTML:
> <h1> up to <h6>
> <h1> the largest font size
> <h6> the smallest font size

Question sources

MOE Computer Science Exit Exam · Question 19-4

National Computer Science Exit Exam · Question 44

National Computer Science Exit Exam

Computer Science Exit Exam practice collection · Question 23

Question 145 | SM0070

In PHP 8 with short_open_tag enabled, which shown delimiters do NOT open and close PHP code? Select all that apply.

A. <? ..... ?>

B. <caption> ..... </caption>

C. <script language="PHP"> ..... </script>

D. <?php ..... ?>

Hint

Check exact language syntax, declaration rules and execution context before reasoning about the result.

Answer B, C: <caption> ..... </caption>; <script language="PHP"> ..... </script>

The full <?php form is valid, and the stated configuration also permits the short <? form. A caption element is HTML markup rather than a PHP delimiter. The historical script-language form is no longer accepted in PHP 8, so it is another non-delimiter under this version. Specifying both version and short-tag configuration makes B and C definite selections rather than relying on an unstated historical environment.

Why each choice is right or wrong

A - Incorrect: The explicitly enabled short-tag configuration makes this PHP delimiter valid.

B - Correct: caption is HTML markup, not a PHP code delimiter.

C - Correct: PHP 8 does not accept this historical script-language delimiter.

D - Incorrect: The full PHP opening and closing form is valid.

Primary note proof

Study-note section WEB23

> Use <?php ...

Study-note section WEB23

> PHP8 no longer accepts historical <script language="PHP"> delimiters; short <? depends on configuration, so use the full form.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 61 | lines 5-14

> Short-open (SGML-style) tags
> Short or short-open tags look like this:
> <?
> //php script
> ?>

Those who escape into and out of HTML frequently in each script will be attracted by the prospect of fewer keystrokes; however, the price of shorter tags is pretty high. Additional adjustment in the php.ini file is required to enable PHP to recognize the tags. PHP code written with short-open tags is less portable because you can‘t be sure another machine will have enabled them in the php.ini file.

Web Programming module | PDF page 60 | lines 23-27

5.2 Basic PHP Syntax
The most universally effective PHP syntax is:
<?php
//php script
?>

Web Programming module | PDF page 18 | lines 21-22

<table>
<caption align=“center” valign=“bottom”>table 1.0</caption>

Question sources

MOE Computer Science Exit Exam · Question 20-2

National Computer Science Exit Exam · Question 73

National Computer Science Exit Exam

MOE Computer Science Exit Exam

Computer Science Exit Exam practice collection · Question 24

Question 146 | SM0077

Which statements about Java and JavaScript are true? Select all that apply.

A. Both are object oriented languages

B. JavaScript and Java are the same programming language

C. Javascript can be used in extremely sophisticated applications

D. JavaScript function identifiers are not case-sensitive

Hint

Check exact language syntax, declaration rules and execution context before reasoning about the result.

Answer A, C: Both are object oriented languages; Javascript can be used in extremely sophisticated applications

Java supports class-based object-oriented programming, while JavaScript supports prototype-based objects; both therefore support object-oriented programming. The Java classification is supplied by the supplementary Oracle tutorial, while the note supplies JavaScript's object model, its distinction from Java and its ability to support sophisticated applications. The languages are not identical, and JavaScript identifiers remain case-sensitive. Thus both the object-oriented statement and the sophisticated-application capability are true.

Why each choice is right or wrong

A - Correct: Both support object-oriented programming, with different object models.

B - Incorrect: The note explicitly distinguishes JavaScript from Java.

C - Correct: The note explicitly supports sophisticated JavaScript applications.

D - Incorrect: JavaScript identifiers are case-sensitive.

Primary note proof

Study-note section WEB-S01

> Java organizes object-oriented programs using classes, objects, inheritance and interfaces.

Study-note section WEB15

> JavaScript originated at Netscape; it is distinct from Java and supports sophisticated applications through prototype-based objects and first-class functions.

Study-note section WEB15

> Identifiers are case-sensitive and may start with letters, underscore or $, not digits or spaces.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 44 | lines 4-19

> JavaScript (JS) is a lightweight, interpreted or compiled programming language. It is a single threaded, dynamic language, supporting object oriented, functional programming styles. Do not confuse JavaScript with the Java Programming language. The two-programming language have very different syntax, semantics, and use.
> 4.2 JavaScript Basic
> JavaScript is a scripting or programming language that allows us to implement complex features on web pages. JavaScript will enable us to display timely content updates, interactive maps, 2D/3D animated graphics etc. JavaScript is one of the three layers of web technologies which lets to add functionality to a web page. The three layers of web technologies are stacked together nicely, HTML will let's structure the webpage, CSS deals with the presentation of the web page and JavaScript the functionality.'
> What can JavaScript really do? It can
> - Stores values inside variables

- Perform operations on pieces of texts
- Run a code in response to events

Question sources

MOE Computer Science Exit Exam · Question 22-2

National Computer Science Exit Exam · Question 29

National Computer Science Exit Exam

MOE Computer Science Exit Exam

Computer Science Exit Exam practice collection · Question 25

Question 147 | SM0080

Which one of the following is true about frames in HTML?

A. Every frame must display the same HTML document

B. A legacy frameset document uses body in place of frameset

C. All browsers support frames

D. Frames allow parts of the page to remain stationary while other parts scroll

Hint

Use the element or attribute meaning and document structure, rather than appearance or a similar-looking name.

Answer D: Frames allow parts of the page to remain stationary while other parts scroll

A legacy frameset divides a window into separate documents, and individual frame views can scroll independently. One frame can therefore remain stationary while another scrolls. The documents need not be identical, and the old frameset document used frameset in place of body. The noframes fallback addresses browsers without frame support, so support cannot be asserted for all browsers.

Why each choice is right or wrong

A - Incorrect: Separate frames can display different documents; identical content is not required.

B - Incorrect: The old frameset document replaced body with frameset, the reverse of this claim.

C - Incorrect: The noframes fallback exists for browsers without frame support, so universal support is false.

D - Correct: Independent scrolling lets one frame remain visible while another view scrolls.

Primary note proof

Study-note section WEB10

Legacy frameset/frame divides a window into separate documents; frameset replaced body in old frameset documents.

Study-note section WEB10

Named targets controlled which frame changed; independent scrolling could leave other frames stationary.

Study-note section WEB-S07

A legacy frameset document could include noframes content for user agents that did not support frames or were configured not to display them.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 20 | lines 4-15

2.2.9 HTML Frames
HTML frames allows us to present documents in multiple views, which may be independent windows or sub-windows. Multiple views offer designers a way to keep certain information visible, while other views are scrolled or replaced.
An HTML document that describes frame layout has a different markup than HTML document without frames. A standard document has one HEAD section and one BODY. A frameset document has a HEAD and a FRAMESET in place of BODY.
2.2.9.1 Frame Set
The FRAMESET section of a document specifies the layout of views in the main user agent window. In addition, the FRAMESET section can contain a NOFRAMES element to provide alternate content for user agents that do not support frames or are configured not to display frames.

Question sources

MOE Computer Science Exit Exam · Question 23-1

National Computer Science Exit Exam · Question 76

National Computer Science Exit Exam

Computer Science Exit Exam practice collection · Question 26

Question 148 | SM0085

What will be the output of the following JavaScript statement? Math.floor(5.9)

A. 9

B. 11.8

C. 6

D. 5

Hint

Track the value and type at each operation, applying the stated conversion, indexing or mathematical rule.

Answer D: 5

WEB18 directly evaluates Math.floor(5.9)=5. The floor operation gives the greatest integer not exceeding the input, rather than rounding to the nearest integer or multiplying the input. Thus the fractional part does not push the result up to six; the expression value is five. No string or DOM behavior changes this math result.

Why each choice is right or wrong

A - Incorrect: Nine is not the integer floor of 5.9; it is merely a digit appearing in the input.

B - Incorrect: 11.8 doubles the input and is unrelated to the floor operation.

C - Incorrect: Six would be upward or nearest-integer rounding here, not floor.

D - Correct: Five is the greatest integer no larger than 5.9, matching the explicit note example.

Primary note proof

Study-note section WEB-S08

> For finite numeric arguments, Math.abs(x) gives the nonnegative magnitude, Math.floor(x) gives the greatest integer no larger than x, and Math.sqrt(x) gives the nonnegative square root for nonnegative x.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 84 | lines 17-21

> 5.16 PHP Mathematical Functions
> The math functions can handle values within the range of integer and float types.The PHP math functions are part of the PHP core. No installation is required to use these functions.
> Here are some PHP math functions, you can get the whole list from the internet
> abs - Absolute value

Web Programming module | PDF page 85 | lines 2-5

> base_convert - Convert a number between arbitrary bases
> bindec - Binary to decimal
> ceil - Round fractions up
> cos - Cosine

Question sources

MOE Computer Science Exit Exam · Question 24-2

National Computer Science Exit Exam · Question 81

National Computer Science Exit Exam

MOE Computer Science Exit Exam

Computer Science Exit Exam practice collection · Question 27

Question 149 | SM0099

What will be the output of the following JavaScript statement? Math.sqrt(36)

A. 6

B. 30

C. 1

D. 36

Hint

Track the value and type at each operation, applying the stated conversion, indexing or mathematical rule.

Answer A: 6

WEB18 explicitly states Math.sqrt(36)=6. Six squared gives thirty-six, and this function returns the nonnegative square root rather than the original operand or an arithmetic difference. The expression is already a valid numeric function call and needs no parsing repair or context-dependent type coercion to obtain the stated result.

Why each choice is right or wrong

A - Correct: Six is the nonnegative square root of thirty-six, exactly as WEB18 evaluates it.

B - Incorrect: Thirty is not a square root of thirty-six and does not match the defined function.

C - Incorrect: One squared is one, not thirty-six, so it cannot be the result.

D - Incorrect: Thirty-six is the input; sqrt does not simply return it unchanged.

Primary note proof

Study-note section WEB-S08

> For finite numeric arguments, Math.abs(x) gives the nonnegative magnitude, Math.floor(x) gives the greatest integer no larger than x, and Math.sqrt(x) gives the nonnegative square root for nonnegative x.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 84 | lines 17-21

> 5.16 PHP Mathematical Functions
> The math functions can handle values within the range of integer and float types.The PHP math functions are part of the PHP core. No installation is required to use these functions.
> Here are some PHP math functions, you can get the whole list from the internet
> abs - Absolute value

Question sources

MOE Computer Science Exit Exam · Question 28-2

National Computer Science Exit Exam · Question 13

National Computer Science Exit Exam

MOE Computer Science Exit Exam

Computer Science Exit Exam practice collection · Question 29

Question 150 | SM0215

How are the objects organized in the HTML DOM?

A. Hierarchy

B. Queue

C. Stack

D. Class-wise

Hint

Track which node is selected or created, and distinguish changing content from attaching a node.

Answer A: Hierarchy

The module describes a document tree with parent elements and descendants (p.31), and DOM nodes/objects representing document structure (p.52). These relations form a hierarchy rather than a queue, stack or class grouping. Evidence: PDF p. 31, PDF p. 52.

Why each choice is right or wrong

A - Correct: Tree parent/descendant structure is hierarchical.

B - Incorrect: No FIFO sequence is stated as the document organization.

C - Incorrect: No LIFO sequence is stated as the document organization.

D - Incorrect: Class selectors group matches, not the document parent/child structure.

Primary note proof

Study-note section WEB20

> The DOM is a hierarchy of nodes representing the document.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 31 | lines 19-22

> 3.2.1 Style Inheritance
> In CSS, inheritance controls what happens when no value is specified for a

property on an element. CSS uses the document tree for inheritance, in which an element applied to an element is inherited by its descendants.

Web Programming module | PDF page 52 | lines 3-9

4.10 JavaScript DOM (Document object Model)
The Document Object Model (DOM) is the data representation of the objects that comprise the structure and content of a document on the web. The Document Object Model (DOM) is a programming interface for web documents. It represents the page so that programs can change the document structure, style, and content. The DOM represents the document as nodes and objects; that way, programming languages can interact with the page.

Question sources

Computer Science Exit Exam · Sene 2016 · Question 5-2

Computer Science Exit Exam practice collection · Question 40

Question 151 | SM0232

Which of the following methods can be used to refresh a webpage?

A. location.relocate

B. window.relocate

C. window.refresh

D. location.reload

Hint

Distinguish the browser object or dialog role from the kind of response it collects.

Answer D: location.reload()

WEB22 explicitly says location.reload() reloads the current page. D names that method; it must be called with parentheses to perform the reload. The other alternatives invent relocate or refresh names not identified as the standard method in the note. This operation acts on the current browsing location rather than creating a new page context.

Why each choice is right or wrong

A - Incorrect: location.relocate is not the reload method identified in the browser API rule.

B - Incorrect: window.relocate is not the reload method given in WEB22.

C - Incorrect: window.refresh is not the standard reload method described by the supplied note.

D - Correct: Calling location.reload() reloads the current page; the option names that method.

Primary note proof

Study-note section WEB22

location.reload() reloads the current page.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 58 | lines 2-10

The window.location object can be written without the window prefix.
Some examples:
window.location.href returns the href (URL) of the current page
window.location.hostname returns the domain name of the web host
window.location.pathname returns the path and filename of the current page
window.location.protocol returns the web protocol used (http: or https:)
window.location.assign() loads a new document
Window Location Href
The window.location.href property returns the URL of the current page.

Question sources

Computer Science Exit Exam · Sene 2016 · Question 10-3

Computer Science Exit Exam practice collection · Question 41

Question 152 | SM0255

Which one of the following is a false statement?

A. Aweb browser is software that runs on a server

B. Awebsite is a collection of resources in various forms

C. Aweb page is the basic unit of information storage on the www

D. Auser agent renders resources for a user to view

Hint

Identify the role requested and compare it with the definitions and constraints in the cited passages.

Answer A: Aweb browser is software that runs on a server

The module places page storage on servers and page viewing with browsers on clients (p.9). A reverses that teaching role. B is consistent with hosted website files; C is explicit web-information storage; D matches the viewing role. Evidence: PDF p. 9, PDF p. 9, PDF p. 8.

Why each choice is right or wrong

A - Correct: False in the module client/server model.

B - Incorrect: Consistent with the collection of hosted website files.

C - Incorrect: Explicitly web information resides in pages.

D - Incorrect: Consistent with browser viewing/rendering resources.

Primary note proof

Study-note section WEB01

A browser/user agent requests resources and renders HTML/CSS, then runs permitted JavaScript.

Study-note section WEB01

A web/HTTP server receives requests and returns representations, sometimes invoking application code.

Study-note section WEB02

A website groups resources; a page is one document/resource.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 9 | lines 2-4

• Web pages are files stored on computers called Web servers.
• Computers reading the Web pages are called Web clients.
• Web clients view the pages with a program called a Web browser.

Web Programming module | PDF page 9 | lines 13-21

Web hosting is the place where all the files of your website live. Web hosting is a service that allows organizations and individuals to post a website or a web page onto the Internet. A web host, or web hosting service provider, is a business that provides the technologies and services needed for the website or webpage to be viewed in the Internet. Websites are hosted, or stored, on special computers called servers. When Internet users want to view your website, all they need to do is type your website address or domain (the domain name for the site has to be registered) into their browser. Their computer will then connect to your server and your webpages will be delivered to them through the browser.

Web Programming module | PDF page 8 | lines 34-34

• Web information is stored in documents called Web pages.

Question sources

Computer Science Exit Exam · Sene 2016 · Question 18-1

Question 153 | SM0267

Which one of the following terms refers to the machine on which the requested resource is stored?

A. Port

B. Query

C. Host

D. Protocol

Hint

Identify the role requested and compare it with the definitions and constraints in the cited passages.

Answer C: Host

The web hosting section says website files reside on a host/server; the location examples identify hostname as the web-host domain. Host therefore names the resource-storing machine role. Evidence: PDF p. 9, PDF p. 58, PDF p. 8.

Why each choice is right or wrong

A - Incorrect: Not the hosting computer role defined.

B - Incorrect: A database/request operation does not name the hosting machine.

C - Correct: Host matches the storage/serving machine role.

D - Incorrect: HTTP is a communication standard rather than a storage machine.

Primary note proof

Study-note section WEB02

> A URL identifies scheme, host, optional port, path, query and fragment; the host identifies the machine/service name, while a fragment selects a local document location.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 9 | lines 13-21

> Web hosting is the place where all the files of your website live. Web hosting
> is a service that allows organizations and individuals to post a website or a web page
> onto the Internet. A web host, or web hosting service provider, is a business that
> provides the technologies and services needed for the website or webpage to be
> viewed in the Internet. Websites are hosted, or stored, on special computers called
> servers. When Internet users want to view your website, all they need to do is type
> your website address or domain (the domain name for the site has to be registered)
> into their browser. Their computer will then connect to your server and your webpages
> will be delivered to them through the browser.

Web Programming module | PDF page 58 | lines 4-7

> window.location.href returns the href (URL) of the current page
> window.location.hostname returns the domain name of the web host
> window.location.pathname returns the path and filename of the current page
> window.location.protocol returns the web protocol used (http: or https:)

Web Programming module | PDF page 8 | lines 32-32

> • All the computers use a communication standard called HTTP.

Question sources

Computer Science Exit Exam · Sene 2016 · Question 22-1

Computer Science Exit Exam practice collection · Question 191

Question 154 | SM0281

Which attribute of the <img> tag is used to display text in place of an image when the image is not displayed?

A. rep

B. pla

C. alt

D. im

Hint

Use the element or attribute meaning and document structure, rather than appearance or a similar-looking name.

Answer C: alt

The img alt value is explicitly a textual description shown when the image cannot be seen or takes too long to render. Evidence: PDF p. 16.

Why each choice is right or wrong

A - Incorrect: Not the named fallback attribute.

B - Incorrect: Not the named fallback attribute.

C - Correct: Exact documented fallback attribute.

D - Incorrect: Not the named fallback attribute.

Primary note proof

Study-note section WEB07

> <img src="photo.jpg" alt="Students in a lab"> supplies source and alternative text.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 16 | lines 27-29

> Another attribute we frequently see in an img tag is alt. Its value is textual description of the image, which is displayed in a situation where the image cannot be seen or takes a long time to render.

Question sources

Computer Science Exit Exam · Sene 2016 · Question 26-3

Computer Science Exit Exam practice collection · Question 36

Question 155 | SM0284

Which of the following is the top-level object in web browsers?

A. Root object

B. Document object

C. JavaScript object

D. Window object

Hint

Distinguish the browser object or dialog role from the kind of response it collects.

Answer D: Window object

The BOM discussion states that global JavaScript objects/functions/variables belong to window and even document is its property. Thus window is the top-level browser object in this teaching model. Evidence: PDF p. 56.

Why each choice is right or wrong

A - Incorrect: Generic root label is not the documented browser object name.

B - Incorrect: Document is a property within window.

C - Incorrect: Generic JavaScript object is not the named top-level object.

D - Correct: Window contains the global members and document.

Primary note proof

Study-note section WEB22

> In a normal browser page, window exposes the browsing context and document is its document property.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 56 | lines 15-25

> The window object is supported by all browsers. It represents the browser's window.
> All global JavaScript objects, functions, and variables automatically become members of the window object.
> Global variables are properties of the window object
> Global functions are methods of the window object.
> Even the document object (of the HTML DOM) is a property of the window object:
> window.document.getElementById("header");
> is the same as:
> document.getElementById("header");

Question sources

Computer Science Exit Exam · Sene 2016 · Question 27-3

Computer Science Exit Exam practice collection · Question 37

Question 156 | SS095

Which CSS selector selects elements whose class list contains notice?

A. p

B. #notice

C. [type="email"]

D. .notice

Hint

Identify which elements a rule targets and distinguish selector syntax from declaration syntax.

Answer D: .notice

A class selector uses a dot followed by the class name, so .notice matches elements that have notice among their classes. An ID selector uses a hash and tests a different attribute. The remaining choices are a type selector and an attribute selector, each meaningful but aimed at another condition. The damaged options are replaced with explicit selector forms rather than claiming to recover an uncertain source-letter mapping.

Why each choice is right or wrong

A - Incorrect: This selects paragraph elements by tag name.

B - Incorrect: This selects the notice ID, not the class token.

C - Incorrect: This tests the type attribute rather than the class list.

D - Correct: This is the class selector for the notice token.

Primary note proof

Study-note section WEB11

> Type p selects paragraph elements, .notice selects a class, #logo an ID, h1,h2 groups selectors, nav ul selects descendants and nav>ul direct children.

Study-note section WEB11

> Attribute selectors match properties such as [type="email"], pseudo-classes states such as :hover/:focus, and pseudo-elements parts such as ::before.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 31 | lines 5-11

2. Class selector -> The element(s) on the page with the specified class. Multiple instances of the same class can appear on a page. We use the . (dot) symbol and the name of the class to use it as a selector in css
3. Id selector -> The element on the page with the specified ID. On a given HTML page, each id value should be unique. We use # (hashtag) symbol and the name of the id as a selector

Question sources

Computer Science model exam collection · Question 2

Question 157 | SS101

Which option identifies components present in an HTTP/1.1 request even when it has no message body?

A. Header fields only

B. Header fields and a mandatory body

C. A response status line, header fields and a mandatory body

D. A request line and header fields

Hint

Identify the protocol layer and the intended request, response or channel semantics.

Answer D: A request line and header fields

HTTP/1.1 requests start with a request line, then contain header fields and a terminating blank line. A body is optional, so neither option that requires one describes every request. A status line begins a response, not a request. The version qualifier matters because HTTP/2 and HTTP/3 encode messages differently; the selected components refer specifically to the textual HTTP/1.1 structure, not every HTTP wire format.

Why each choice is right or wrong

A - Incorrect: This omits the request line.

B - Incorrect: The body is optional, so making it mandatory is wrong.

C - Incorrect: A status line belongs to a response, and a request body is optional.

D - Correct: These components are present before any optional body.

Primary note proof

Study-note section WEB03

An HTTP/1.1 request begins with method, request-target and version, followed by header fields, a blank line, and an optional body.

Study-note section WEB03

A response begins with version, status code and optional reason phrase, then headers, blank line and permitted content.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 89 | lines 20-31

6.3 Sending Request to PHP server
XMLHttpRequest (XHR) is an API that can be used by JavaScript and other web browser scripting languages to transfer and manipulate XML data to and from a webserver using HTTP, establishing an independent connection channel between a webpage's Client-Side and Server-Side.
In order to make an HTTP request to the server with JavaScript, you need an instance of an XMLHttpRequest Object. We make a request to the sever, by calling the open() and send() methods of the HTTP request object, like this:
httpRequest.open('GET', 'http://www.example.org/some.file', true);
httpRequest.send();
open() takes three parameters, the first is the HTTP request method and the second is the URL. The optional third parameter sets whether the request is asynchronous.

Question sources

Computer Science model exam collection · Question 8

Question 158 | SS131

What will be the output of the following code snippet?
<script type="text/javascript" language= 'javascript' >
var a = "exitexam";
var result = a.substring(2, 6);
document.write(result);
</script>

A. xitex

B. texam

C. itex

D. xite

Hint

Track the value and type at each operation, applying the stated conversion, indexing or mathematical rule.

Answer C: itex

substring(2,6) uses a zero-based start and excludes the end index. In exitexam, indices 2, 3, 4 and 5 contain i, t, e and x. document.write therefore emits itex. Starting at index 1 or continuing beyond index 5 produces a different interval, which rules out the other strings.

Why each choice is right or wrong

A - Incorrect: xitex starts at index one and contains five characters, rather than the requested four-character interval.

B - Incorrect: texam starts too late and extends beyond the exclusive end index six.

C - Correct: Indices two through five contain i, t, e, x, producing itex.

D - Incorrect: xite begins at index one rather than the specified zero-based start index two.

Primary note proof

Study-note section WEB18

> A JS string’s substring(start,end) includes start and excludes end: "exitexam".substring(2,6) is "itex".

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 44 | lines 16-19

> What can JavaScript really do? It can
> - Stores values inside variables
> - Perform operations on pieces of texts
> - Run a code in response to events

Web Programming module | PDF page 47 | lines 24-31

> - String → a string in JavaScript must be surrounded by quotes. We have three different quotes
> 1. Single quotes --- ‘single’
> 2. Double quotes --- ‘double’
> 3. Backticks -- `hello`. In a standard US keyboard, you can find the backticks above the tab key before the number 1 key.
> Backticks allows to embed variables and expressions into a string by wrapping them with ${}

Question sources

Computer Science model exam collection · Question 38

Question 159 | SS181

Default method while submitting a form is

A. Get method

B. Set method

C. Post method

D. Put method

Hint

Separate the control role, displayed content, submitted value and form destination.

Answer A: GET

WEB09 explicitly says a form's default method is GET. Therefore omitting the method attribute does not select POST or PUT. WEB04 further distinguishes GET query parameters from POST form bodies, but that difference does not change the default. Set is not the relevant form submission method named in the note.

Why each choice is right or wrong

A - Correct: GET is the default method for an HTML form when its method attribute is omitted.

B - Incorrect: Set is not the default HTML form submission method defined here.

C - Incorrect: POST must be requested explicitly; it is not the form's omitted-method default.

D - Incorrect: PUT is not the default method selected by an ordinary HTML form.

Primary note proof

Study-note section WEB09

> The default method is GET.

Study-note section WEB04

> GET forms usually put name/value pairs in the URL query; POST forms put them in the body.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 21 | lines 23-31

> Form attributes:
> - action → Backend script ready to process the data collected
> - method → method used to upload Data. The most frequently used
> - target → Specify the target window or frame where the result of the script
> will be displayed. It takes values like _blank, _self, _parent etc.
> - enctype → tells how the browser encodes data. Possible values
> 1. application/x-www-form-urlencoded → most common and used from
> simple scenarios
> 2. mutlipart/form-data → used to upload binary data

Web Programming module | PDF page 62 | lines 23-26

> - $_GET → An associative array of variables passed to the current script via the
> HTTP GET method.
> - $_POST → An associative array of variables passed to the current script via
> the HTTP POST method.

Question sources

Computer Science model exam collection · Question 88

Question 160 | Q01135_LOCAL69

A variable declared _____ has a LOCAL SCOPE?

A. outside program

B. inside function

C. outside function

D. None of the Above

Hint

Identify the role requested and compare it with the definitions and constraints in the cited passages.

Answer B: Inside a function

WEB25 states that a function's locals and by-value parameters are separate bindings from variables outside it. Thus a variable declared inside a function has ordinary local scope, unless a special explicit global binding is introduced. Outside function is the global-scope location, while outside program is not a meaningful declaration location in the script.

Why each choice is right or wrong

A - Incorrect: Outside program does not describe a declaration location within the executing PHP script.

B - Correct: An ordinary declaration inside a function creates a local binding for that function.

C - Incorrect: Variables declared outside functions have global scope under WEB25.

D - Incorrect: Inside function is offered and matches the ordinary local-binding rule.

Primary note proof

Study-note section WEB25

> A function's locals and by-value parameters are separate bindings; use global $x or $GLOBALS["x"] to refer to a global explicitly.

Study-note section WEB25

> A variable outside a function has global scope.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 62 | lines 15-18

> All the following variables are automatically available in every scope.
> - $GLOBALS → Contains a reference to every variable which is currently available within the global scope of the script. The keys of this array are the names of the global variables.

Web Programming module | PDF page 72 | lines 7-17

Function definitions have the following form:
function function_name([parameter [, ...]])
{
// Statements
}
That is, function definitions have four parts:
- A definition starts with the word function.
- A name follows, which must start with a letter or underscore, followed by any number of letters, numbers, or underscores.
- The parentheses are required.
- One or more parameters, separated by commas, are optional

Question sources

Web Programming practice questions · Question 69

Question 161 | AM0051

What is the primary markup language used for structuring content on the web?

A. HTML

B. CSS

C. JavaScript

D. PHP

Hint

Identify the role requested and compare it with the definitions and constraints in the cited passages.

Answer A: HTML

HTML is explicitly a markup language telling browsers how to structure pages, while CSS handles appearance and JavaScript behavior. Evidence: PDF p. 10, PDF p. 60.

Why each choice is right or wrong

A - Correct: Exact markup/structure role.

B - Incorrect: Stylesheet/presentation role.

C - Incorrect: Programming/behavior role.

D - Incorrect: Server-side scripting role.

Primary note proof

Study-note section WEB01

HTML supplies structure/meaning; CSS controls presentation; JavaScript supplies programmable interactivity.

Study-note section WEB01

PHP, Python, JSP/Java and ASP.NET applications generate server responses and access databases; C# is commonly used with ASP.NET.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 10 | lines 9-16

HTML (HyperText Markup Language) is the most basic building block of the Web.
HTML is not a programming language rather it is a markup language that tells web browsers how to structure the web page. HTML consists of a series of elements, which you use to enclose, wrap or markup different parts of content to make it appear or act in a certain way.
HTML defines the meaning and structure of web content. Other technologies besides HTML are generally used to describe a web page's appearance/presentation (CSS) or functionality/ behavior (JavaScript).

Web Programming module | PDF page 60 | lines 4-10

PHP is a server-side scripting language, which can be embedded in HTML or used as a standalone binary (although the former use is much more common). PHP stands for Hypertext Preprocessor. The product was originally named Personal Home Page Tools, and many people still think that is what the acronym stands for. But as it expanded in scope, a new and more appropriate name was selected by community vote. PHP is the language that you use to make the server generate dynamic output-output that is potentially different each time a browser re-quests a page.

Question sources

Computer Science MCQ practice collection · Question 51

Question 162 | AM0052

What is the purpose of CSS in web development?

A. To define the semantic document structure using HTML elements

B. To add interactivity and dynamic behavior to web pages

C. To control the visual appearance of web pages

D. To handle server-side processing and database interactions

Hint

Identify the role requested and compare it with the definitions and constraints in the cited passages.

Answer C: To control the visual appearance of web pages

CSS controls visual presentation, including colors, typography and layout. HTML supplies document structure and meaning; JavaScript supplies programmable browser interaction. Server technologies such as PHP generate responses and interact with databases. With the structural distractor confined to semantic elements, the presentation alternative is the unique description of CSS's role.

Why each choice is right or wrong

A - Incorrect: Semantic document elements and structure are HTML's role rather than CSS's presentation role.

B - Incorrect: Programmable interaction is the JavaScript role, distinct from CSS styling.

C - Correct: Visual presentation is the central CSS role.

D - Incorrect: Server processing and database access belong to server application code.

Primary note proof

Study-note section WEB01

> HTML supplies structure/meaning; CSS controls presentation; JavaScript supplies programmable interactivity.

Study-note section WEB01

> PHP, Python, JSP/Java and ASP.NET applications generate server responses and access databases; C# is commonly used with ASP.NET.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 26 | lines 4-16

> In the previous chapter we have seen how to structure a web page using HTML.
> Now it is time to add presentation to our sites, to do that we will be using a technology called CSS. CSS (Cascading Style Sheets) is the code that styles web content. Using CSS you can apply styles to make web pages look exactly how you want. This works because CSS is connected to the DOM(Document Object Model). CSS is not a programming language. It's not a markup language either. CSS is a style sheet language. CSS is what you use to selectively style HTML elements.
> p {
> color: red;
> }
> 3.1.1 Introduction to CSS
> CSS stands for Cascading Style Sheet. It is a stylesheet language used to describe the presentation of a document written in HTML. Styles define how to display HTML

Web Programming module | PDF page 10 | lines 14-16

HTML defines the meaning and structure of web content. Other technologies besides HTML are generally used to describe a web page's appearance/presentation (CSS) or functionality/ behavior (JavaScript).

Web Programming module | PDF page 60 | lines 11-16

Client-side scripting is the glamorous, eye-catching part of Web development. In contrast, server-side scripting is invisible to the user. Server-side Web scripting is mostly about connecting Web sites to back-end servers, such as databases. This enables the following types of two-way communication:
➢ Server to client: Web pages can be assembled from back end-server output.
➢ Client to server: Customer-entered information can be acted upon.

Question sources

Computer Science MCQ practice collection · Question 52

Question 163 | AM0053

Which programming language is primarily used for client-side scripting in web development?

A. HTML

B. CSS

C. JavaScript

D. PHP

Hint

Identify the role requested and compare it with the definitions and constraints in the cited passages.

Answer C: JavaScript

The client-side scripting chapter identifies JavaScript as the language adding browser behavior; HTML structures, CSS presents, PHP executes server-side. Evidence: PDF p. 44, PDF p. 60.

Why each choice is right or wrong

A - Incorrect: Markup structure, not the scripting language.

B - Incorrect: Stylesheet presentation, not scripting.

C - Correct: Exact browser scripting language.

D - Incorrect: Server-side language in p.60.

Primary note proof

Study-note section WEB01

HTML supplies structure/meaning; CSS controls presentation; JavaScript supplies programmable interactivity.

Study-note section WEB01

PHP, Python, JSP/Java and ASP.NET applications generate server responses and access databases; C# is commonly used with ASP.NET.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 44 | lines 2-15

Chapter 4: Client-Side Scripting (JavaScript)
4.1 Introduction to JavaScript
JavaScript (JS) is a lightweight, interpreted or compiled programming language. It is a single threaded, dynamic language, supporting object oriented, functional programming styles. Do not confuse JavaScript with the Java Programming language. The two-programming language have very different syntax, semantics, and use.
4.2 JavaScript Basic
JavaScript is a scripting or programming language that allows us to implement complex features on web pages. JavaScript will enable us to display timely content updates, interactive maps, 2D/3D animated graphics etc. JavaScript is one of the three layers of web technologies which lets to add functionality to a web page. The three layers of web technologies are stacked together nicely, HTML will let's structure the webpage, CSS deals with the presentation of the web page and JavaScript the functionality.'

Web Programming module | PDF page 60 | lines 4-10

PHP is a server-side scripting language, which can be embedded in HTML or used as a standalone binary (although the former use is much more common). PHP stands for Hypertext Preprocessor. The product was originally named Personal Home Page Tools, and many people still think that is what the acronym stands for. But as it expanded in scope, a new and more appropriate name was selected by community vote. PHP is the language that you use to make the server generate dynamic output-output that is potentially different each time a browser re-quests a page.

Question sources

Computer Science MCQ practice collection · Question 53

Question 164 | AM0054

Which application-layer protocol defines the requests and responses used to retrieve web resources?

A. HTTP

B. FTP

C. TCP/IP

D. SMTP

Hint

Identify the role requested and compare it with the definitions and constraints in the cited passages.

Answer A: HTTP

HTTP defines the application-level exchange for web resource requests and responses. TCP/IP supplies underlying communication facilities, so naming the application layer distinguishes the required role. FTP and SMTP concern other application services rather than the web resource exchange described. HTTPS adds TLS protection to HTTP; the question asks for the underlying web application protocol.

Why each choice is right or wrong

A - Correct: HTTP defines the web resource request/response exchange.

B - Incorrect: FTP is a file-transfer protocol, not the application protocol defining the stated web resource exchange.

C - Incorrect: TCP/IP names underlying network/transport facilities, not this application-layer request/response protocol.

D - Incorrect: SMTP concerns mail transfer rather than the web resource request/response exchange.

Primary note proof

Study-note section WEB01

> The Internet connects networks; the Web is a resource system commonly using HTTP.

Study-note section WEB-S14

> HTTP defines web application requests, response status codes and representations.

Study-note section WEB-S14

> An HTTP exchange can use underlying TCP connections and IP addresses; naming that network stack does not identify the application-level method or status semantics.

Study-note section WEB-S14

> FTP is a file-transfer application protocol.

Study-note section WEB-S14

> SMTP transports electronic mail.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 8 | lines 29-34

> • The World Wide Web (WWW) is most often called the Web.
> • The Web is a network of computers all over the world.
> • All the computers in the Web can communicate with each other.

• All the computers use a communication standard called HTTP.
How does the WWW work?
• Web information is stored in documents called Web pages.

Question sources

Computer Science MCQ practice collection · Question 54

Question 165 | AM0055

What is the purpose of a web server in web development?

A. To store and manage website files

B. To handle client-side scripting

C. To control the visual appearance of web pages

D. To ensure secure data transmission over the web

Hint

Identify the role requested and compare it with the definitions and constraints in the cited passages.

Answer A: To store and manage website files

Web servers store the files comprising websites and deliver pages to requesting browsers (p.9). Client interactivity and visual styling have separate JavaScript/CSS roles. Evidence: PDF p. 9, PDF p. 44.

Why each choice is right or wrong

A - Correct: Direct storage/hosting role.

B - Incorrect: Client-side behavior is assigned to JavaScript.

C - Incorrect: Presentation is assigned to CSS.

D - Incorrect: Secure transport is not the general server definition supplied.

Primary note proof

Study-note section WEB01

HTML supplies structure/meaning; CSS controls presentation; JavaScript supplies programmable interactivity.

Study-note section WEB01

PHP, Python, JSP/Java and ASP.NET applications generate server responses and access databases; C# is commonly used with ASP.NET.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 9 | lines 13-21

> Web hosting is the place where all the files of your website live. Web hosting is a service that allows organizations and individuals to post a website or a web page onto the Internet. A web host, or web hosting service provider, is a business that provides the technologies and services needed for the website or webpage to be viewed in the Internet. Websites are hosted, or stored, on special computers called servers. When Internet users want to view your website, all they need to do is type your website address or domain (the domain name for the site has to be registered) into their browser. Their computer will then connect to your server and your webpages will be delivered to them through the browser.

Web Programming module | PDF page 44 | lines 13-15

> layers of web technologies are stacked together nicely, HTML will let's structure the webpage, CSS deals with the presentation of the web page and JavaScript the functionality.'

Question sources

Computer Science MCQ practice collection · Question 55

Question 166 | AM0056

Which listed DBMS is the open-source relational SQL server used by the course's PHP database examples, including its MySQLi connection and query operations?

A. MySQL

B. Oracle

C. SQL Server

D. MongoDB

Hint

Identify the API and operation first, then distinguish connection setup, statement execution and result processing.

Answer A: MySQL

The note identifies MySQL as an open-source SQL DBMS and uses it as the database server for the PHP MySQLi examples. The question asks for that specific course example, so MySQL is the matching system. Oracle, SQL Server and MongoDB are different named systems; this selection does not depend on an unsupported popularity ranking or a claim that no other database has open-source editions.

Why each choice is right or wrong

A - Correct: MySQL is the open-source SQL DBMS used as the server in the course's MySQLi examples.

B - Incorrect: Oracle is a different named database system, not the MySQL server used by these examples.

C - Incorrect: SQL Server is a different named database system from the server used by the course's MySQLi examples.

D - Incorrect: MongoDB is not the named SQL server used by the course's MySQLi examples.

Primary note proof

Study-note section WEB-S04

> MySQL is an open-source SQL database management system.

Study-note section WEB31

> MySQL is a relational DBMS; a database persists structured application data and supports concurrent clients.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 78 | lines 22-31

> 5.13 Database Programming using PHP
> 5.13.1 PHP File Overview on MySQL database
> MySQL, the most popular Open Source SQL database management system, is developed, distributed, and supported by Oracle Corporation. It is a separate application that stores a collection of data. Each database has one or more distinct APIs for creating, accessing, managing, searching and replicating the data it holds.
> - MySQL is a database management system.
> A database is a structured collection of data. It may be anything from a simple shopping list to a picture gallery or the vast amounts of information in a corporate network.

Question sources

Computer Science MCQ practice collection · Question 56

Question 167 | AM0057

what is the purpose of a cookie in web development?

A. To store and retrieve user preferences and session information

B. To control the visual appearance of web pages

C. To handle client-side scripting

D. To ensure secure data transmission over the web

Hint

Follow the identifier and server-side state through the stated lifecycle or access check; distinguish client-controlled claims from server decisions.

Answer A: To store and retrieve user preferences and session information

Cookies remember user information across requests and are stored as name/value pairs (p.58). A matches retaining preferences/session information rather than styling, executing scripts or guaranteeing transport security. Evidence: PDF p. 58, PDF p. 59.

Why each choice is right or wrong

A - Correct: Matches remembering user information.

B - Incorrect: Presentation is CSS, not cookie storage.

C - Incorrect: Cookies store data, not the client scripting language itself.

D - Incorrect: The cookie definition supplies no secure-transport guarantee.

Primary note proof

Study-note section WEB28

> Cookies are browser-held name/value data automatically attached to matching requests subject to domain, path, expiry, Secure and SameSite rules.

Study-note section WEB29

> Normally the browser holds an opaque session identifier while data resides in server-controlled storage.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 58 | lines 12-23

> Cookies let you store user information in web pages.
> What are Cookies?
> Cookies are data, stored in small text files, on your computer.
> When a web server has sent a web page to a browser, the connection is shut down, and the server forgets everything about the user. Cookies were invented to solve the problem "how to remember information about the user":
> When a user visits a web page, his/her name can be stored in a cookie.
> Next time the user visits the page, the cookie "remembers" his/her name.
> Cookies are saved in name-value pairs like:
> When a browser requests a web page from a server, cookies belonging to the page are added to the request. This way the server gets the necessary data to "remember" information about users.

Web Programming module | PDF page 59 | lines 4-7

> Create a Cookie with JavaScript
> JavaScript can create, read, and delete cookies with the document.cookie property.
> With JavaScript, a cookie can be created like this:
> document.cookie = "username=John Doe";

Question sources

Computer Science MCQ practice collection · Question 57

Question 168 | AM0058

Which listed programming languages can execute server-side web application code? Select all that apply.

A. HTML

B. CSS

C. JavaScript

D. PHP

Hint

Identify the role requested and compare it with the definitions and constraints in the cited passages.

Answer C, D: JavaScript; PHP

PHP is a server-response language, and JavaScript can execute on the server through runtimes such as Node.js. JavaScript is therefore not excluded merely because it also runs in browsers. HTML supplies document structure and CSS supplies presentation rules rather than the requested server application scripting role. Both supported programming-language choices must be selected under the revised multiple-selection wording.

Why each choice is right or wrong

A - Incorrect: HTML supplies document structure and meaning rather than server application scripting.

B - Incorrect: CSS supplies presentation rules rather than server application scripting.

C - Correct: JavaScript can run server-side, including through Node.js.

D - Correct: PHP can generate server responses and access application data.

Primary note proof

Study-note section WEB01

> HTML supplies structure/meaning; CSS controls presentation; JavaScript supplies programmable interactivity.

Study-note section WEB01

> PHP, Python, JSP/Java and ASP.NET applications generate server responses and access databases; C# is commonly used with ASP.NET.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 60 | lines 4-10

> PHP is a server-side scripting language, which can be embedded in HTML or used as a standalone binary (although the former use is much more common). PHP stands for Hypertext Preprocessor. The product was originally named Personal Home Page Tools, and many people still think that is what the acronym stands for. But as it expanded in scope, a new and more appropriate name was selected by community vote. PHP is the language that you use to make the server generate dynamic output-output that is potentially different each time a browser re-quests a page.

Web Programming module | PDF page 92 | lines 6-9

> b. Node.js
> Node is an open source, cross platform runtime environment that allows developers to create server-side tools and applications in JavaScript. As an asynchronous event-driven JavaScript runtime, Node.js is designed to build scalable network applications.

Web Programming module | PDF page 10 | lines 9-16

> HTML (HyperText Markup Language) is the most basic building block of the Web. HTML is not a programming language rather it is a markup language that tells web browsers how to structure the web page. HTML consists of a series of elements, which you use to enclose, wrap or markup different parts of content to make it appear or act in a certain way.
> HTML defines the meaning and structure of web content. Other technologies besides HTML are generally used to describe a web page's appearance/presentation (CSS) or functionality/ behavior (JavaScript).

Question sources

Computer Science MCQ practice collection · Question 58

Question 169 | AM0059

What is the purpose of a framework in web development?

A. To ensure secure data transmission over the web

B. To control the visual appearance of web pages

C. To provide a foundation and structure for developing web applications

D. To handle client-side scripting

Hint

Match the stated application requirement to the capabilities and category of each technology.

Answer C: To provide a foundation and structure for developing web applications

The framework chapter describes integrated components, libraries and developer tools for building applications. This provides the reusable foundation in C; particular frameworks may also style or script pages, but those are narrower uses. Evidence: PDF p. 93, PDF p. 91.

Why each choice is right or wrong

A - Incorrect: Secure transport is not the general framework purpose given.

B - Incorrect: Styling is a subset of Bootstrap functionality, not the general foundation role.

C - Correct: Matches integrated application-building structure/tools.

D - Incorrect: Client scripting is only one part of the framework examples.

Primary note proof

Study-note section WEB38

> A framework supplies conventions and reusable structure; a library supplies callable capabilities.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 93 | lines 12-19

> c. Angular.js
> Angular is a development platform, built on TypeScript. As a platform, Angular includes:
> 1. A component-based framework for building scalable web applications
> 2. A collection of well-integrated libraries that cover a wide variety of features, including routing, forms management, client-server communication, and more
> 3. A suite of developer tools to help you develop, build, test, and update your code

Web Programming module | PDF page 91 | lines 10-15

> Bootstrap is a free front end framework for faster and easier web development.
> It is s an open-source tool collection for creating responsive websites and web applications. It is the most popular HTML, CSS, and JavaScript framework for developing responsive, mobile-first websites.
> Bootstrap solves many problems that we face when using HTML,CSS and vanilla JavaScript.

Question sources

Computer Science MCQ practice collection · Question 59

Question 170 | AM0060

Which programming language is often used for building scalable and high-performance web applications?

A. HTML

B. CSS

C. JavaScript

D. Node.js

Hint

Identify the execution side and communication pattern, keeping runtime, transport, data format and callback roles distinct.

Answer C: JavaScript is the language; Node.js is a runtime.

WEB01 explicitly distinguishes Node.js from the language it runs. JavaScript is therefore the offered programming-language answer for Node-based server applications. HTML and CSS supply structure and presentation. Scalability and performance depend on workload and architecture, as WEB36 explains, so the answer identifies the language without promising that its use alone guarantees high performance.

Why each choice is right or wrong

A - Incorrect: HTML is structural markup rather than the server application language requested.

B - Incorrect: CSS supplies presentation rather than programmable server application logic.

C - Correct: JavaScript is the programming language used by Node applications.

D - Incorrect: Node.js is a JavaScript runtime, not a separate programming language.

Primary note proof

Study-note section WEB01

> Node.js is a JavaScript runtime, not a separate language.

Study-note section WEB36

> One event-loop thread can handle many waiting requests, but long CPU loops or synchronous I/O block its callbacks.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 92 | lines 6-14

> b. Node.js
> Node is an open source, cross platform runtime environment that allows developers to create server-side tools and applications in JavaScript. As an asynchronous event-driven JavaScript runtime, Node.js is designed to build scalable network applications.
> Benefits of using Node
> 1. Performance
> 2. Uses plain old JavaScript
> 3. Thousands of reusable packages
> 4. Portable

Web Programming module | PDF page 10 | lines 9-16

> HTML (HyperText Markup Language) is the most basic building block of the Web.
> HTML is not a programming language rather it is a markup language that tells web

browsers how to structure the web page. HTML consists of a series of elements, which you use to enclose, wrap or markup different parts of content to make it appear or act in a certain way.
HTML defines the meaning and structure of web content. Other technologies besides HTML are generally used to describe a web page's appearance/presentation (CSS) or functionality/ behavior (JavaScript).

Question sources

Computer Science MCQ practice collection · Question 60

Question 171 | AM0061

What is the purpose of AJAX in web development?

A. To control the visual appearance of web pages

B. To handle client-side scripting

C. To ensure secure data transmission over the web

D. To enable asynchronous communication between the client and server

Hint

Identify the execution side and communication pattern, keeping runtime, transport, data format and callback roles distinct.

Answer D: To enable asynchronous communication between the client and server

AJAX asynchronously communicates with the server, exchanges data and updates pages without refresh (p.89). D is the precise purpose; client-side scripting is the broader environment, not the distinguishing function. Evidence: PDF p. 89.

Why each choice is right or wrong

A - Incorrect: Visual styling is a cooperating CSS role.

B - Incorrect: Broad surrounding activity, not the specific AJAX purpose.

C - Incorrect: No secure-transport guarantee is given.

D - Correct: Exact asynchronous client/server exchange purpose.

Primary note proof

Study-note section WEB34

AJAX means Asynchronous JavaScript and XML, but responses can be JSON, text, HTML or XML.

Study-note section WEB34

It is a technique, not a language, standalone framework or mandatory XML protocol.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 89 | lines 4-13

> AJAX is a web development technique for creating interactive web applications.
> AJAX stands for Asynchronous JavaScript and XML. It can send and receive information in various formats, including JSON, XML, HTML, and text files. AJAX is a new technique for creating better, faster, and more interactive web applications with the help of XML, HTML, CSS, and Java Script. AJAX's most appealing characteristic is its "asynchronous" nature, which means it can communicate with the server, exchange data, and update the page without having to refresh the page.
> The two major features of AJAX allow you to do the following:
> - Make requests to the server without reloading the page
> - Receive and work with data from the server

Question sources

Computer Science MCQ practice collection · Question 61

Question 172 | AM0062

Which listed formats can represent structured application data for server/browser interchange, rather than document presentation or styling? Select all that apply.

A. HTML

B. CSS

C. JSON

D. XML

Hint

Identify the execution side and communication pattern, keeping runtime, transport, data format and callback roles distinct.

Answer C, D: JSON; XML

JSON represents structured values such as objects and arrays, while XML is another supported interchange format. A REST API may return either, so data interchange alone does not choose one uniquely. HTML can be delivered as a response document, but the revised question distinguishes that presentation role from the structured-data formats sought here. CSS expresses styling rules. JSON and XML therefore form the requested selection.

Why each choice is right or wrong

A - Incorrect: HTML's role here is the response document, not the requested structured-data interchange format.

B - Incorrect: CSS expresses presentation rules rather than application-data interchange.

C - Correct: JSON represents structured data values for interchange.

D - Correct: XML is another valid structured-data interchange format.

Primary note proof

Study-note section WEB35

> JSON represents objects, arrays, strings, numbers, Booleans and null; keys/strings use double quotes, and functions/undefined are not JSON values.

Study-note section WEB35

> XML is another valid interchange format.

Study-note section WEB01

> HTML supplies structure/meaning; CSS controls presentation; JavaScript supplies programmable interactivity.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 89 | lines 4-10

> AJAX is a web development technique for creating interactive web applications.
> AJAX stands for Asynchronous JavaScript and XML. It can send and receive information in various formats, including JSON, XML, HTML, and text files. AJAX is a new technique for creating better, faster, and more interactive web applications with the help of XML, HTML, CSS, and Java Script. AJAX's most appealing characteristic is its "asynchronous" nature, which means it can communicate with the server, exchange data, and update the page without having to refresh the page.

Question sources

Computer Science MCQ practice collection · Question 62

Question 173 | AM0063

What is the purpose of a content management system (CMS) in web development?

A. To store and manage website files

B. To control the visual appearance of web pages

C. To handle client-side scripting

D. To provide a user-friendly interface for managing website content

Hint

Distinguish the purpose of each development or performance technique from its possible side effects.

Answer D: An editor-facing interface for managing website content.

A CMS gives editors content creation, publishing, roles, and media management without editing every source file. That directly matches D's user-facing content-management interface. File storage may support it but is not its complete purpose; CSS controls appearance and JavaScript supplies client scripting. The requested role is editorial content management.

Why each choice is right or wrong

A - Incorrect: File storage can support a CMS, but does not capture its editor-facing content creation and publishing purpose.

B - Incorrect: Visual presentation is primarily CSS's role, not the defining purpose of a CMS.

C - Incorrect: Client-side scripting is a JavaScript role rather than the CMS's defining editorial function.

D - Correct: A CMS provides editors an interface and workflow for creating, publishing, and managing site content.

Primary note proof

Study-note section WEB39

> A CMS gives editors content creation, publishing, roles and media management without editing every source file.

Study-note section WEB01

> HTML supplies structure/meaning; CSS controls presentation; JavaScript supplies programmable interactivity.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 9 | lines 13-21

> Web hosting is the place where all the files of your website live. Web hosting
> is a service that allows organizations and individuals to post a website or a web page
> onto the Internet. A web host, or web hosting service provider, is a business that
> provides the technologies and services needed for the website or webpage to be
> viewed in the Internet. Websites are hosted, or stored, on special computers called
> servers. When Internet users want to view your website, all they need to do is type
> your website address or domain (the domain name for the site has to be registered)
> into their browser. Their computer will then connect to your server and your webpages
> will be delivered to them through the browser.

Web Programming module | PDF page 26 | lines 4-10

> In the previous chapter we have seen how to structure a web page using HTML.
> Now it is time to add presentation to our sites, to do that we will be using a technology
> called CSS. CSS (Cascading Style Sheets) is the code that styles web content. Using
> CSS you can apply styles to make web pages look exactly how you want. This works
> because CSS is connected to the DOM(Document Object Model). CSS is not a

programming language. It's not a markup language either. CSS is a style sheet language. CSS is what you use to selectively style HTML elements.

Question sources

Computer Science MCQ practice collection · Question 63

Question 174 | AM0064

Which technique is used to improve the performance of web applications by caching frequently accessed data or resources?

A. Compression

B. Minification

C. Caching

D. Encryption

Hint

Distinguish the purpose of each development or performance technique from its possible side effects.

Answer C: Caching

WEB39 defines caching as reusing a representation or result and requiring validity or invalidation rules. Keeping frequently accessed data for reuse is therefore Caching. Compression and minification reduce transfer or source size, while encryption protects data; none of those alone stores a reusable computed result. Cache keys and privacy still matter when using the technique safely.

Why each choice is right or wrong

A - Incorrect: Compression changes transfer encoding or size rather than retaining a result for repeated reuse.

B - Incorrect: Minification removes unnecessary source characters and does not itself store frequently reused results.

C - Correct: Caching retains a representation or result so later accesses can reuse it without repeating all prior work.

D - Incorrect: Encryption protects data confidentiality rather than supplying the result-reuse technique described.

Primary note proof

Study-note section WEB39

Caching reuses a representation/result and requires validity/invalidation rules.

Study-note section WEB39

Minification removes unnecessary source characters; bundling combines files; compression changes transfer encoding; preloading fetches anticipated resources early.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 45 | lines 28-31

As a rule, only the simplest scripts are put into HTML. More complex ones reside in separate files.
The benefit of a separate file is that the browser will download it and store it in its cache.

Question sources

Computer Science MCQ practice collection · Question 64

Question 175 | AM0065

Which protocol is used for secure communication over the web?

A. HTTP

B. FTP

C. TCP/IP

D. HTTPS

Hint

Identify the protocol layer and the intended request, response or channel semantics.

Answer D: HTTPS

WEB05 defines HTTPS as HTTP over TLS, protecting channel confidentiality and integrity and authenticating the server through certificate checks. That is the secure web-communication protocol among the main choices. Plain HTTP, FTP, and TCP/IP do not by their names supply that TLS-protected web exchange. The alternate option set places HTTPS at C, so its answer letter differs.

Why each choice is right or wrong

A - Incorrect: Plain HTTP does not by itself add TLS confidentiality, integrity, and certificate-based server authentication.

B - Incorrect: FTP is not the HTTPS protocol for TLS-protected web communication identified in the note.

C - Incorrect: TCP/IP names underlying networking protocols rather than the TLS-protected HTTP scheme requested.

D - Correct: HTTPS is HTTP over TLS and supplies the channel protections described in WEB05.

Primary note proof

Study-note section WEB05

HTTPS uses HTTP over TLS, protecting channel confidentiality/integrity and authenticating the server under certificate checks.

Study-note section WEB-S14

HTTP defines web application requests, response status codes and representations.

Study-note section WEB-S14

An HTTP exchange can use underlying TCP connections and IP addresses; naming that network stack does not identify the application-level method or status semantics.

Study-note section WEB-S14

FTP is a file-transfer application protocol.

Study-note section WEB-S14

SMTP transports electronic mail.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 58 | lines 4-8

window.location.href returns the href (URL) of the current page
window.location.hostname returns the domain name of the web host
window.location.pathname returns the path and filename of the current page
window.location.protocol returns the web protocol used (http: or https:)
window.location.assign() loads a new document

Web Programming module | PDF page 8 | lines 29-34

• The World Wide Web (WWW) is most often called the Web.
• The Web is a network of computers all over the world.
• All the computers in the Web can communicate with each other.
• All the computers use a communication standard called HTTP.
How does the WWW work?
• Web information is stored in documents called Web pages.

Variant 1 | Alternative version 1

Which protocol is used for secure communication over the web?

A. HTTP

B. FTP

C. HTTPS

D. SMTP

Answer C: HTTPS

This variant moves HTTPS to C and replaces the fourth choice with SMTP. WEB05 still identifies HTTPS as HTTP over TLS. HTTP alone lacks that channel protection, and FTP or SMTP does not name the secure web protocol requested, so the variant answer must use its own C label.

Why each choice is right or wrong

A - Incorrect: Plain HTTP does not itself provide the TLS channel protections described in WEB05.

B - Incorrect: FTP is not the TLS-protected HTTP protocol used for the requested secure web exchange.

C - Correct: HTTPS is HTTP over TLS, protecting confidentiality, integrity, and checked server identity.

D - Incorrect: SMTP is not the HTTPS web protocol and does not answer the secure HTTP communication question.

Primary note proof

Study-note section WEB05

> HTTPS uses HTTP over TLS, protecting channel confidentiality/integrity and authenticating the server under certificate checks.

Study-note section WEB-S14

> HTTP defines web application requests, response status codes and representations.

Study-note section WEB-S14

> An HTTP exchange can use underlying TCP connections and IP addresses; naming that network stack does not identify the application-level method or status semantics.

Study-note section WEB-S14

> FTP is a file-transfer application protocol.

Study-note section WEB-S14

> SMTP transports electronic mail.

Question sources

Computer Science MCQ practice collection · Question 65

Computer Science MCQ practice collection · Question 484

Question 176 | AM0066

What is the purpose of a RESTful API in web development?

A. To control the visual appearance of web pages

B. To handle client-side scripting

C. To ensure secure data transmission over the web

D. To provide a standardized interface for accessing and manipulating web resources

Hint

Identify the protocol layer and the intended request, response or channel semantics.

Answer D: A uniform interface for accessing and manipulating resources.

WEB05 describes REST constraints including client/server separation, stateless requests, and a uniform resource interface. It associates identified resources with representations and methods for reading or changing them. D expresses that purpose. CSS handles appearance, JavaScript supplies client interactivity, and HTTPS supplies channel protection; none of those is the defining role of REST itself.

Why each choice is right or wrong

A - Incorrect: Visual presentation is a CSS role, not the defining purpose of a REST resource interface.

B - Incorrect: Client-side scripting is a JavaScript role rather than the definition of REST architecture.

C - Incorrect: TLS/HTTPS protects transmission; a REST interface does not itself guarantee secure transport.

D - Correct: REST supplies a uniform resource interface for accessing representations and requesting resource operations.

Primary note proof

Study-note section WEB05

> A RESTful API follows constraints such as client/server separation, stateless requests, cacheability and a uniform resource interface.

Study-note section WEB05

> Resources have identifiers and representations; JSON is common but not required.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 44 | lines 21-28

> We can use JavaScript in coordination with Application programming interfaces (APIs). APIs provide us extra information. They are ready made code building blocks that are used to simplify programming in JavaScript. There are two types of APIs

- Third party API → are not built into the browser. We have to grab the code from the web. Examples: Twitter API, Google maps API etc.
- Browser API → are built into the browser. Examples DOM (Document object model) which is covered later in this chapter, Geolocation API, Canvas and WebGL, Audio and Video elements

Web Programming module | PDF page 89 | lines 20-24

6.3 Sending Request to PHP server
XMLHttpRequest (XHR) is an API that can be used by JavaScript and other web browser scripting languages to transfer and manipulate XML data to and from a webserver using HTTP, establishing an independent connection channel between a webpage's Client-Side and Server-Side.

Question sources

Computer Science MCQ practice collection · Question 66

Question 177 | AM0067

What is the purpose of responsive web design?

A. To control the visual appearance of web pages

B. To handle client-side scripting

C. To ensure secure data transmission over the web

D. To create websites that adapt and display correctly on different devices and screen sizes

Hint

Identify the requested presentation effect and layout context before matching the property or rule.

Answer D: To create websites that adapt and display correctly on different devices and screen sizes

The framework chapter requires support for desktop, tablet and phone screen sizes and describes responsive mobile-first websites. D directly captures this adaptation goal. Evidence: PDF p. 91.

Why each choice is right or wrong

A - Incorrect: General styling alone does not specify adaptation.

B - Incorrect: Scripting alone does not specify adaptation.

C - Incorrect: Transport security is unrelated to the described screen-size goal.

D - Correct: Exact device/screen adaptation purpose.

Primary note proof

Study-note section WEB14

Responsive design combines flexible layout, images, viewport metadata and media queries, for example @media(max-width:600px){.cards{grid-template-columns:1fr}}.

Study-note section WEB06

Meta charset declares encoding; description summarizes the page; viewport controls mobile viewport behavior.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 91 | lines 6-13

Now a days the website you build has to support all browser types and all sizes of screen (Desktop, Tablets, Phones etc..). To make that possible we use different frameworks. This part of the chapter will introduce you to the Bootstrap framework.
Bootstrap is a free front end framework for faster and easier web development.
It is s an open-source tool collection for creating responsive websites and web applications. It is the most popular HTML, CSS, and JavaScript framework for developing responsive, mobile-first websites.

Question sources

Computer Science MCQ practice collection · Question 67

Question 178 | AM0068

What is the purpose of version control systems (VCS) in web development?

A. To control the visual appearance of web pages

B. To handle client-side scripting

C. To ensure secure data transmission over the web

D. To track changes to source code and collaborate on web development projects

Hint

Distinguish the purpose of each development or performance technique from its possible side effects.

Answer D: Track source changes and support collaboration.

WEB39 defines VCS through recording source history, branches, and merges for review and collaboration. That directly matches D. Styling and client-side scripting are product technologies, while transport security is an HTTPS concern. A VCS can help teams review changes, but publishing a chosen build is a separate deployment action rather than its definition.

Why each choice is right or wrong

A - Incorrect: VCS records source history; CSS rather than version control determines rendered appearance.

B - Incorrect: Version control tracks scripts as files but does not execute client-side scripting.

C - Incorrect: Version history and collaboration do not themselves provide secure web transport.

D - Correct: Source history, branching, merging, and review support tracking changes and collaborating on development.

Primary note proof

Study-note section WEB39

> A VCS records source history, branches and merges to support review/collaboration; deployment publishes a chosen build and is a separate operation.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 93 | lines 18-19

> 3. A suite of developer tools to help you develop, build, test, and update your code

Web Programming module | PDF page 44 | lines 13-15

> layers of web technologies are stacked together nicely, HTML will let’s structure the webpage, CSS deals with the presentation of the web page and JavaScript the functionality.’

Question sources

Computer Science MCQ practice collection · Question 68

Question 179 | AM0069

Which web development concept refers to the practice of optimizing a website to rank higher in search engine results?

A. Accessibility

B. Usability

C. SEO (Search Engine Optimization)

D. Performance optimization

Hint

Distinguish the purpose of each development or performance technique from its possible side effects.

Answer C: SEO: Search Engine Optimization

WEB39 describes SEO as improving discoverability through meaningful content, headings, metadata, links, and crawlable structure. That matches the practice of improving search-result visibility. Accessibility, usability, and performance can overlap with helpful site improvements, but none is the name of this search-discoverability objective. Ranking improvement is an aim, not a guarantee from a single metadata setting.

Why each choice is right or wrong

A - Incorrect: Accessibility concerns usable access to content and controls, rather than naming the search-ranking optimization practice.

B - Incorrect: Usability concerns user experience and task completion, not specifically search-engine discoverability.

C - Correct: Search Engine Optimization names the practice of improving discoverability in search results.

D - Incorrect: Performance optimization improves resource delivery or execution speed, not the specific search-ranking practice named here.

Primary note proof

Study-note section WEB39

> SEO improves discoverability through meaningful content, headings, metadata, accessible links and crawlable structure; keyword metadata alone does not guarantee ranking.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 92 | lines 6-14

> b. Node.js
> Node is an open source, cross platform runtime environment that allows developers to create server-side tools and applications in JavaScript. As an asynchronous event-driven JavaScript runtime, Node.js is designed to build scalable network applications.
> Benefits of using Node
> 1. Performance
> 2. Uses plain old JavaScript
> 3. Thousands of reusable packages
> 4. Portable

Question sources

Computer Science MCQ practice collection · Question 69

Question 180 | AM0070

Which activity is specifically used to detect XSS and SQL-injection weaknesses so they can then be repaired?

A. Encryption

B. Authentication

C. Authorization

D. Web application security testing

Hint

Identify the data source or security responsibility precisely, and check whether a combined source or a different control could also qualify.

Answer D: Web application security testing

Web application security testing can detect SQL injection and XSS and provide evidence for repairs. Detection does not by itself remove the flaws: safe query parameterization and context-appropriate output handling are still required. Encryption, authentication and authorization address other protection goals and do not perform the vulnerability-testing activity requested. Changing the stem from a claim of prevention to a detection task preserves the security-testing concept without overstating its effect.

Why each choice is right or wrong

A - Incorrect: Encryption protects content but is not the requested detection activity.

B - Incorrect: Authentication checks identity rather than testing for these code weaknesses.

C - Incorrect: Authorization checks permitted actions rather than conducting vulnerability tests.

D - Correct: This is the testing activity used to discover the specified weaknesses.

Primary note proof

Study-note section WEB27

> A security test can detect SQL injection or XSS but does not itself fix either.

Study-note section WEB27

> Bind SQL parameters to keep values separate from commands.

Study-note section WEB-S11

> Authentication verifies a claimed identity.

Study-note section WEB-S11

> Authorization checks whether a particular entity is permitted to perform a requested action.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 73 | lines 2-10

Form validation is done to ensure that the user has provided the relevant information. Basic validation can be done using HTML elements. For example, in the above script, the email address text box is having a type value as “email”, which prevents the user from entering the incorrect value for an email. Every form field in the above script is followed by a required attribute, which will intimate the user not to leave any field empty before submitting the form. PHP methods and arrays used in form processing are:
• isset(): This function is used to determine whether the variable or a form control is having a value or not.

Web Programming module | PDF page 80 | lines 2-15

5.13.3 Sending Query to MySQL Database using PHP
A database query from PHP is basically a MySQL command wrapped up in a tiny PHP function called mysql_query(). This is where you use the basic SQL workhorses of SELECT,
INSERT, UPDATE, and DELETE, CREATE or DROP a table (but not those to create or drop an entire database) can be used with this PHP function.
Syntax:
[$resultvar=] mysql_query(“query”,[link identifier]);
$resultvar - is an optional result variable. This is used when the query is a select statement.
Query - is any valid insert, delete, update, select, create table or drop table statement enclosed by quotes. It is a good habit to hold the query in a separate variable to add flexibility to your code.
Link identifier-is an optional link identifier

Question sources

Computer Science MCQ practice collection · Question 70

Question 181 | AM0071

A server request handler contains this fragment, with no user-defined syntax extensions:
$visitor = "Mimi";
echo "Hello, " . $visitor;
Which listed language accepts this fragment as written in its normal language environment?

A. HTML

B. CSS

C. JavaScript

D. PHP

Hint

Trace the bindings and operations in order; preserve the exact string characters and distinguish returned values from emitted output.

Answer D: PHP

The fragment uses a dollar-prefixed variable, the echo output construct and dot concatenation. Together these are valid PHP syntax, producing the greeting by joining two strings. JavaScript uses different output calls and does not use dot as this binary concatenation operator. HTML and CSS provide structure and presentation rather than directly executing this server-side statement sequence. Recognizing the actual syntax resolves the language choice without excluding JavaScript from server programming generally.

Why each choice is right or wrong

A - Incorrect: HTML markup does not execute this variable assignment and output-construct sequence.

B - Incorrect: CSS presentation rules do not execute this statement sequence.

C - Incorrect: The echo construct and dot concatenation shown are not ordinary JavaScript syntax.

D - Correct: PHP accepts the assignment, echo construct and dot concatenation as written.

Primary note proof

Study-note section WEB23

> Variables begin with $, then a letter/underscore and subsequent letters/digits/underscores; $AGE18 works but $18AGE does not.

Study-note section WEB24

> echo is a language construct with no return value and can emit comma-separated expressions.

Study-note section WEB24

> Dot concatenates; + is arithmetic.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 60 | lines 4-10

> PHP is a server-side scripting language, which can be embedded in HTML or used as a standalone binary (although the former use is much more common). PHP stands for Hypertext Preprocessor. The product was originally named Personal Home Page Tools, and many people still think that is what the acronym stands for. But as it expanded in scope, a new and more appropriate name was selected by community vote. PHP is the language that you use to make the server generate dynamic output-output that is potentially different each time a browser re-quests a page.

Web Programming module | PDF page 92 | lines 6-9

> b. Node.js
> Node is an open source, cross platform runtime environment that allows developers to create server-side tools and applications in JavaScript. As an asynchronous event-driven JavaScript runtime, Node.js is designed to build scalable network applications.

Web Programming module | PDF page 10 | lines 9-16

> HTML (HyperText Markup Language) is the most basic building block of the Web.
> HTML is not a programming language rather it is a markup language that tells web browsers how to structure the web page. HTML consists of a series of elements, which you use to enclose, wrap or markup different parts of content to make it appear or act in a certain way.
> HTML defines the meaning and structure of web content. Other technologies besides HTML are generally used to describe a web page's appearance/presentation (CSS) or functionality/ behavior (JavaScript).

Question sources

Computer Science MCQ practice collection · Question 71

Question 182 | AM0072

Which server-side scripting language is often used for building scalable and high-performance web applications?

A. HTML

B. CSS

C. JavaScript

D. Node.js

Hint

Identify the execution side and communication pattern, keeping runtime, transport, data format and callback roles distinct.

Answer C: JavaScript, executed server-side by runtimes such as Node.js.

WEB01 directly distinguishes JavaScript as a language and Node.js as its runtime. The question asks for the language, so C is the category-correct option. WEB36 warns that long CPU work or synchronous I/O can block Node callbacks, so scalability is architectural and workload-dependent rather than a guarantee from the language name alone.

Why each choice is right or wrong

A - Incorrect: HTML is markup for structure rather than server-side application scripting.

B - Incorrect: CSS is presentation rather than the server application language requested.

C - Correct: JavaScript is the language that runs in Node-based server applications.

D - Incorrect: Node.js is a runtime, not a distinct server-side scripting language.

Primary note proof

Study-note section WEB01

> Node.js is a JavaScript runtime, not a separate language.

Study-note section WEB36

One event-loop thread can handle many waiting requests, but long CPU loops or synchronous I/O block its callbacks.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 92 | lines 6-14

b. Node.js
Node is an open source, cross platform runtime environment that allows developers to create server-side tools and applications in JavaScript. As an asynchronous event-driven JavaScript runtime, Node.js is designed to build scalable network applications.
Benefits of using Node
1. Performance
2. Uses plain old JavaScript
3. Thousands of reusable packages
4. Portable

Web Programming module | PDF page 10 | lines 9-16

HTML (HyperText Markup Language) is the most basic building block of the Web. HTML is not a programming language rather it is a markup language that tells web browsers how to structure the web page. HTML consists of a series of elements, which you use to enclose, wrap or markup different parts of content to make it appear or act in a certain way.
HTML defines the meaning and structure of web content. Other technologies besides HTML are generally used to describe a web page's appearance/presentation (CSS) or functionality/ behavior (JavaScript).

Question sources

Computer Science MCQ practice collection · Question 72

Question 183 | AM0073

What is the purpose of server-side scripting languages in web development?

A. To control the visual appearance of web pages

B. To handle client-side interactivity

C. To generate dynamic content and interact with databases

D. To ensure secure data transmission over the web

Hint

Identify the role requested and compare it with the definitions and constraints in the cited passages.

Answer C: To generate dynamic content and interact with databases

Server PHP generates dynamic output and connects sites to backend databases, enabling two-way communication (p.60). C combines those explicitly described purposes. Evidence: PDF p. 60, PDF p. 44.

Why each choice is right or wrong

A - Incorrect: CSS presentation role.

B - Incorrect: Client JavaScript role.

C - Correct: Exact dynamic-output/database role.

D - Incorrect: Transport security is not the stated server scripting purpose.

Primary note proof

Study-note section WEB01

> HTML supplies structure/meaning; CSS controls presentation; JavaScript supplies programmable interactivity.

Study-note section WEB01

> PHP, Python, JSP/Java and ASP.NET applications generate server responses and access databases; C# is commonly used with ASP.NET.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 60 | lines 9-19

> language that you use to make the server generate dynamic output-output that is potentially different each time a browser re-quests a page.
> Client-side scripting is the glamorous, eye-catching part of Web development. In contrast, server-side scripting is invisible to the user. Server-side Web scripting is mostly about connecting Web sites to back-end servers, such as databases. This enables the following types of two-way communication:
> ➢ Server to client: Web pages can be assembled from back end-server output.
> ➢ Client to server: Customer-entered information can be acted upon.
> Common examples of client-to-server interaction are online forms with some drop-down lists (usually the ones that require you to click a button) that the script assembles dynamically on the server.

Web Programming module | PDF page 44 | lines 13-15

> layers of web technologies are stacked together nicely, HTML will let's structure the webpage, CSS deals with the presentation of the web page and JavaScript the functionality.'

Question sources

Computer Science MCQ practice collection · Question 73

Question 184 | AM0074

Which of the following is a server-side scripting language for Microsoft's ASP.NET framework?

A. Python

B. Ruby

C. C#

D. Java

Hint

Identify the role requested and compare it with the definitions and constraints in the cited passages.

Answer C: C#

WEB01 explicitly states that C# is commonly used with ASP.NET. That identifies the requested language among the main options. Python and Java can be used for server applications in other roles described here, but are not its stated ASP.NET pairing. The answer concerns language/framework association, not a claim that only one language can ever interact with the platform.

Why each choice is right or wrong

A - Incorrect: Python is a server-side language, but it is not the ASP.NET language pairing identified in WEB01.

B - Incorrect: Ruby is not the language explicitly paired with ASP.NET in the supplied note.

C - Correct: WEB01 explicitly states that C# is commonly used with ASP.NET.

D - Incorrect: The note associates Java with JSP/Java server applications, while identifying C# for ASP.NET.

Primary note proof

Study-note section WEB01

> PHP, Python, JSP/Java and ASP.NET applications generate server responses and access databases; C# is commonly used with ASP.NET.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 60 | lines 3-10

> 5.1 Introduction to PHP
> PHP is a server-side scripting language, which can be embedded in HTML or used as a standalone binary (although the former use is much more common). PHP stands for Hypertext Preprocessor. The product was originally named Personal Home Page Tools, and many people still think that is what the acronym stands for. But as it expanded in scope, a new and more appropriate name was selected by community vote. PHP is the

language that you use to make the server generate dynamic output-output that is potentially different each time a browser re-quests a page.

Question sources

Computer Science MCQ practice collection · Question 74

Question 185 | AM0075

Which client-side scripting language is supported by all modern web browsers?

A. HTML

B. CSS

C. JavaScript

D. PHP

Hint

Identify the role requested and compare it with the definitions and constraints in the cited passages.

Answer C: JavaScript

The JavaScript chapter describes browser functionality and modern browser JavaScript interactivity. C matches the client scripting language; HTML and CSS have different structural/presentation roles and PHP is server-side. Evidence: PDF p. 44, PDF p. 56, PDF p. 60.

Why each choice is right or wrong

A - Incorrect: Markup language, not scripting.

B - Incorrect: Stylesheet language, not scripting.

C - Correct: Browser scripting language described throughout chapter 4.

D - Incorrect: Explicit server-side language.

Primary note proof

Study-note section WEB01

HTML supplies structure/meaning; CSS controls presentation; JavaScript supplies programmable interactivity.

Study-note section WEB01

PHP, Python, JSP/Java and ASP.NET applications generate server responses and access databases; C# is commonly used with ASP.NET.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 44 | lines 9-15

> JavaScript is a scripting or programming language that allows us to implement complex features on web pages. JavaScript will enable us to display timely content updates, interactive maps, 2D/3D animated graphics etc. JavaScript is one of the three layers of web technologies which lets to add functionality to a web page. The three layers of web technologies are stacked together nicely, HTML will let's structure the webpage, CSS deals with the presentation of the web page and JavaScript the functionality.'

Web Programming module | PDF page 56 | lines 11-16

> There are no official standards for the Browser Object Model (BOM).
> Since modern browsers have implemented (almost) the same methods and properties for JavaScript interactivity, it is often referred to, as methods and properties of the BOM.
> The window object is supported by all browsers. It represents the browser's window.

Web Programming module | PDF page 60 | lines 4-10

> PHP is a server-side scripting language, which can be embedded in HTML or used as a standalone binary (although the former use is much more common). PHP stands for Hypertext Preprocessor. The product was originally named Personal Home Page Tools, and many people still think that is what the acronym stands for. But as it expanded in scope, a new and more appropriate name was selected by community vote. PHP is the language that you use to make the server generate dynamic output-output that is potentially different each time a browser re-quests a page.

Question sources

Computer Science MCQ practice collection · Question 75

Question 186 | AM0076

What is the purpose of client-side scripting languages in web development?

A. To control the visual appearance of web pages

B. To handle server-side processing and database interactions

C. To generate dynamic content and interact with databases

D. To add interactivity and dynamic behavior to web pages

Hint

Identify the role requested and compare it with the definitions and constraints in the cited passages.

Answer D: To add interactivity and dynamic behavior to web pages

JavaScript implements timely updates, interactive maps and animated graphics (p.44). This is the client-side interactivity/dynamic-behavior purpose in D. Evidence: PDF p. 44, PDF p. 60.

Why each choice is right or wrong

A - Incorrect: CSS presentation is a different layer.

B - Incorrect: Server/database processing belongs to server scripting.

C - Incorrect: Server-generated database output is a different role.

D - Correct: Matches interactive client behavior.

Primary note proof

Study-note section WEB01

> HTML supplies structure/meaning; CSS controls presentation; JavaScript supplies programmable interactivity.

Study-note section WEB01

> PHP, Python, JSP/Java and ASP.NET applications generate server responses and access databases; C# is commonly used with ASP.NET.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 44 | lines 9-19

> JavaScript is a scripting or programming language that allows us to implement complex features on web pages. JavaScript will enable us to display timely content updates, interactive maps, 2D/3D animated graphics etc. JavaScript is one of the three layers of web technologies which lets to add functionality to a web page. The three layers of web technologies are stacked together nicely, HTML will let's structure the webpage, CSS deals with the presentation of the web page and JavaScript the functionality.'
> What can JavaScript really do? It can
> - Stores values inside variables
> - Perform operations on pieces of texts
> - Run a code in response to events

Web Programming module | PDF page 60 | lines 11-16

> Client-side scripting is the glamorous, eye-catching part of Web development. In contrast, server-side scripting is invisible to the user. Server-side Web scripting is mostly about connecting Web sites to back-end servers, such as databases. This enables the following types of two-way communication:
> ➢ Server to client: Web pages can be assembled from back end-server output.
> ➢ Client to server: Customer-entered information can be acted upon.

Question sources

Computer Science MCQ practice collection · Question 76

Question 187 | AM0077

Which client-side scripting language is primarily used for manipulating the Document Object Model (DOM) of a web page?

A. HTML

B. CSS

C. JavaScript

D. PHP

Hint

Track which node is selected or created, and distinguish changing content from attaching a node.

Answer C: JavaScript

The module JavaScript DOM section explains accessing elements and changing document structure, style and content. That makes JavaScript the client scripting language for DOM manipulation. Evidence: PDF p. 52, PDF p. 60.

Why each choice is right or wrong

A - Incorrect: HTML supplies structure rather than the client scripting operation.

B - Incorrect: CSS styles content rather than being the scripting language.

C - Correct: Explicitly uses DOM APIs to access/change pages.

D - Incorrect: PHP executes on the server in this module.

Primary note proof

Study-note section WEB01

> HTML supplies structure/meaning; CSS controls presentation; JavaScript supplies programmable interactivity.

Study-note section WEB20

> The DOM is a hierarchy of nodes representing the document.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 52 | lines 3-20

> 4.10 JavaScript DOM (Document object Model)
> The Document Object Model (DOM) is the data representation of the objects that comprise the structure and content of a document on the web. The Document Object Model (DOM) is a programming interface for web documents. It represents the page so that programs can change the document structure, style, and content. The DOM represents the document as nodes and objects; that way, programming languages can interact with the page.
> 4.10.1 Accessing HTML elements in JavaScript

In the DOM Api, there are different methods to get access to HTML elements. We will list the available methods here, but only the most recent methods are covered here.
- getElementById(id) returns an element with that specific ID
- getElmentsByClassName(class) returns elements with that specific class
getElementsByTagName(tag) returns elements with the given tag name
- querySelector(selector) → The Document method querySelector() returns the first Element within the document that matches the specified selector, or group of selectors. If no matches are found, null is returned.
element = document.querySelector(selectors);

Web Programming module | PDF page 60 | lines 4-10

PHP is a server-side scripting language, which can be embedded in HTML or used as a standalone binary (although the former use is much more common). PHP stands for Hypertext Preprocessor. The product was originally named Personal Home Page Tools, and many people still think that is what the acronym stands for. But as it expanded in scope, a new and more appropriate name was selected by community vote. PHP is the language that you use to make the server generate dynamic output-output that is potentially different each time a browser re-quests a page.

Question sources

Computer Science MCQ practice collection · Question 77

Question 188 | AM0078

Which client-side scripting language is often used for validating form inputs on web pages?

A. HTML

B. CSS

C. JavaScript

D. PHP

Hint

Separate event dispatch, handler registration and cancellation of the browser default action.

Answer C: JavaScript

The module includes a JavaScript form-validation example checking an empty field and prompting the user. C identifies the scripting language performing that check. Evidence: PDF p. 55, PDF p. 73.

Why each choice is right or wrong

A - Incorrect: HTML can provide basic validation but is not the requested scripting language.

B - Incorrect: Presentation language, not this validation script.

C - Correct: Exact language of the documented validation example.

D - Incorrect: PHP validates on the server, not in the browser.

Primary note proof

Study-note section WEB01

> HTML supplies structure/meaning; CSS controls presentation; JavaScript supplies programmable interactivity.

Study-note section WEB21

> For submission, form.addEventListener("submit",e=>{if(!valid()){e.preventDefault();}}) stops the default only on failure.

Study-note section WEB21

> Browser checks improve feedback; repeat validation and authorization on the server.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 55 | lines 4-18

> Now inside the submit event handler function we call the event.preventDefault()
> method to prevent the default behavior and avoid a form submit to reload the page,
> this gives us control. After we gain control over the submit event we can all kind of
> stuff, like form validation
> Here is a simple but different way of validating a form using javascript
> Form Validation
> <html>
> <head>
> <title>Form Validation</title>
> <script type = "text/javascript">
> if(document.myForm.Name.value == "") {
> alert("Please provide your name!");
> document.myForm.Name.focus() ;
> return false;
> }

Web Programming module | PDF page 73 | lines 2-7

> Form validation is done to ensure that the user has provided the relevant information.
> Basic validation can be done using HTML elements. For example, in the above
> script, the email address text box is having a type value as “email”, which prevents
> the user from entering the incorrect value for an email. Every form field in the above
> script is followed by a required attribute, which will intimate the user not to leave
> any field empty before submitting the form. PHP methods and arrays used in form

Question sources

Computer Science MCQ practice collection · Question 78

Question 189 | AM0079

Which client-side scripting technique allows for loading new content into a web page without a full page reload?

A. AJAX

B. JSON

C. XML

D. Bootstrap

Hint

Identify the execution side and communication pattern, keeping runtime, transport, data format and callback roles distinct.

Answer A: AJAX

AJAX explicitly requests data and updates a page without full refresh. JSON/XML are possible exchange formats, and Bootstrap is a responsive UI framework. Evidence: PDF p. 89, PDF p. 91.

Why each choice is right or wrong

A - Correct: Exact no-refresh exchange technique.

B - Incorrect: A supported data format, not the exchange technique.

C - Incorrect: Another data format, not the technique.

D - Incorrect: Responsive framework, not the AJAX request mechanism.

Primary note proof

Study-note section WEB34

> AJAX means Asynchronous JavaScript and XML, but responses can be JSON, text, HTML or XML.

Study-note section WEB38

> Bootstrap supplies layout/components.

Study-note section WEB35

> JSON represents objects, arrays, strings, numbers, Booleans and null; keys/strings use double quotes, and functions/undefined are not JSON values.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 89 | lines 4-18

> AJAX is a web development technique for creating interactive web applications.
> AJAX stands for Asynchronous JavaScript and XML. It can send and receive
> information in various formats, including JSON, XML, HTML, and text files. AJAX

is a new technique for creating better, faster, and more interactive web applications with the help of XML, HTML, CSS, and Java Script. AJAX's most appealing characteristic is its "asynchronous" nature, which means it can communicate with the server, exchange data, and update the page without having to refresh the page.
The two major features of AJAX allow you to do the following:
- Make requests to the server without reloading the page
- Receive and work with data from the server
6.2 XMLHttpRequest Object
XMLHttpRequest (XHR) objects are used to interact with servers. You can retrieve data from a URL without having to do a full-page refresh. This enables a Web page to update just part of a page without disrupting what the user is doing. Despite its name, XMLHttpRequest can be used to retrieve any type of data, not just XML.

Web Programming module | PDF page 91 | lines 10-13

Bootstrap is a free front end framework for faster and easier web development. It is s an open-source tool collection for creating responsive websites and web applications. It is the most popular HTML, CSS, and JavaScript framework for developing responsive, mobile-first websites.

Question sources

Computer Science MCQ practice collection · Question 79

Question 190 | AM0080

A course-catalog page already has CSS that switches between one and three columns at the required viewport widths. It still needs a browser-side filter that updates the visible course cards without a full-page reload. With suitable application code, which listed technologies can implement that interaction while retaining the CSS layout? Select all that apply.

A. jQuery

B. React

C. Angular

D. Vue.js

Hint

Match the stated application requirement to the capabilities and category of each technology.

Answer A, B, C, D: jQuery; React; Angular; Vue.js

The responsive layout is already supplied by CSS; the remaining task is programmable interface behavior. jQuery can update the DOM, and React, Angular and Vue can implement the filter and visible-card updates through their interface facilities. None is uniquely required by this interaction. All four remain possible choices when suitable application code is supplied, without implying that selecting any toolkit automatically implements responsiveness or the filter itself.

Why each choice is right or wrong

A - Correct: jQuery can handle filter interaction and update existing DOM content while the CSS controls layout.

B - Correct: React can render the filtered card interface while using the supplied responsive CSS.

C - Correct: Angular can implement the filter interaction and visible-card updates with the existing layout styles.

D - Correct: Vue can update visible cards in response to filter input while retaining responsive styles.

Primary note proof

Study-note section WEB38

> jQuery simplifies DOM operations; React builds component interfaces; Angular is a component platform, distinct from older AngularJS; Vue also builds interactive interfaces.

Study-note section WEB38

> Each can contribute to a responsive interface, so those generic descriptions do not identify one unique framework.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 94 | lines 14-17

> d. React.js
> React.js is an open-source front-end JavaScript library for building user interfaces based on UI components. React builds encapsulated component that manage their own state, then compose them to complex UIs. To build for the web, developers use

Web Programming module | PDF page 93 | lines 12-19

> c. Angular.js
> Angular is a development platform, built on TypeScript. As a platform, Angular includes:
> 1. A component-based framework for building scalable web applications
> 2. A collection of well-integrated libraries that cover a wide variety of features, including routing, forms management, client-server communication, and more
> 3. A suite of developer tools to help you develop, build, test, and update your code

Web Programming module | PDF page 91 | lines 28-31

> 2. Many of Bootstrap components require the use of JavaScript to function.
> Specifically, they require jQuery, Popper.js, and boostrap JavaScript plugins.
> Follow this order when including the JS files
> - JQuery

Question sources

Computer Science MCQ practice collection · Question 80

Question 191 | AM0081

A page sends asynchronous HTTP requests and uses each response to update part of the page without a full navigation. Which listed technique names this browser request-and-update pattern?

A. AJAX

B. JSON

C. Websockets

D. RESTful API

Hint

Identify the execution side and communication pattern, keeping runtime, transport, data format and callback roles distinct.

Answer A: AJAX

AJAX is the technique of using asynchronous browser HTTP requests to obtain data and update part of a page. It can carry JSON, XML or other response formats. JSON names a data representation, while WebSocket supplies a persistent bidirectional message channel rather than the stated repeated HTTP request/response pattern. A RESTful API describes the server interface organization, not the browser update technique.

Why each choice is right or wrong

A - Correct: AJAX names the asynchronous HTTP request-and-partial-update technique described.

B - Incorrect: JSON can encode a response but does not perform browser requests or update the page.

C - Incorrect: WebSocket uses a persistent bidirectional channel; that is not the specified HTTP request/response technique.

D - Incorrect: A RESTful API can serve the requests, but names an interface style rather than the client’s request-and-update technique.

Primary note proof

Study-note section WEB34

> AJAX means Asynchronous JavaScript and XML, but responses can be JSON, text, HTML or XML.

Study-note section WEB34

> Configure an XHR with open("GET",url,true), register response/error handlers and call send().

Study-note section WEB35

WebSocket establishes a persistent bidirectional message channel after its handshake.

Study-note section WEB35

JSON represents objects, arrays, strings, numbers, Booleans and null; keys/strings use double quotes, and functions/undefined are not JSON values.

Study-note section WEB05

A RESTful API follows constraints such as client/server separation, stateless requests, cacheability and a uniform resource interface.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 89 | lines 4-18

AJAX is a web development technique for creating interactive web applications.
AJAX stands for Asynchronous JavaScript and XML. It can send and receive information in various formats, including JSON, XML, HTML, and text files. AJAX is a new technique for creating better, faster, and more interactive web applications with the help of XML, HTML, CSS, and Java Script. AJAX's most appealing characteristic is its "asynchronous" nature, which means it can communicate with the server, exchange data, and update the page without having to refresh the page.
The two major features of AJAX allow you to do the following:
- Make requests to the server without reloading the page
- Receive and work with data from the server
6.2 XMLHttpRequest Object
XMLHttpRequest (XHR) objects are used to interact with servers. You can retrieve data from a URL without having to do a full-page refresh. This enables a Web page to update just part of a page without disrupting what the user is doing. Despite its name, XMLHttpRequest can be used to retrieve any type of data, not just XML.

Question sources

Computer Science MCQ practice collection · Question 81

Question 192 | AM0082

Which techniques store data locally in a user's browser? Select all that apply.

A. Cookies

B. Local storage

C. Session storage

D. IndexedDB

Hint

Identify the role requested and compare it with the definitions and constraints in the cited passages.

Answer A, B, C, D: Cookies; Local storage; Session storage; IndexedDB

All four entries are browser storage techniques, although their persistence, data model and automatic transmission behavior differ. Cookies hold browser name/value data that can accompany matching requests. localStorage persists origin-specific strings, sessionStorage is scoped to a page session or tab, and IndexedDB supports structured local data. The revised question asks for every local-storage technique rather than assuming that only the API named local storage qualifies.

Why each choice is right or wrong

A - Correct: Cookies are browser-held name/value data, even though matching requests can transmit them.

B - Correct: localStorage persists origin-specific string values until removed or cleared.

C - Correct: sessionStorage stores browser data within a page-session or tab scope.

D - Correct: IndexedDB supplies structured local browser storage.

Primary note proof

Study-note section WEB28

> Cookies are browser-held name/value data automatically attached to matching requests subject to domain, path, expiry, Secure and SameSite rules.

Study-note section WEB28

> localStorage persists origin-specific string values across sessions until removed/cleared; sessionStorage is scoped to a page session/tab.

Study-note section WEB28

> IndexedDB supplies structured local storage.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 58 | lines 12-23

> Cookies let you store user information in web pages.
> What are Cookies?
> Cookies are data, stored in small text files, on your computer.
> When a web server has sent a web page to a browser, the connection is shut down,
> and the server forgets everything about the user. Cookies were invented to solve the
> problem "how to remember information about the user":
> When a user visits a web page, his/her name can be stored in a cookie.
> Next time the user visits the page, the cookie "remembers" his/her name.
> Cookies are saved in name-value pairs like:
> When a browser requests a web page from a server, cookies belonging to the page
> are added to the request. This way the server gets the necessary data to "remember"
> information about users.

Web Programming module | PDF page 76 | lines 2-5

> in one application. A PHP session allows you to store user information on the server for later use (i.e., username, shopping items, etc.). However, session information is temporary and will be deleted after the user has left the website. If you need a permanent storage you may want to store the data in a database.

Question sources

Computer Science MCQ practice collection · Question 82

Question 193 | AM0083

Which source-processing step removes unnecessary characters from CSS or JavaScript, distinct from bundling files together or compressing transfer encoding?

A. Compression

B. Caching

C. Minification

D. Encryption

Hint

Distinguish the purpose of each development or performance technique from its possible side effects.

Answer C: Minification

Minification removes unnecessary source characters, such as dispensable formatting, while preserving the intended program or stylesheet behavior. Bundling combines files and compression changes transfer encoding; these are separate operations even when a build pipeline performs them together. Caching instead reuses an existing representation, and encryption serves confidentiality. Restricting the question to source-character reduction makes minification the supported technique without claiming it also performs file combination.

Why each choice is right or wrong

A - Incorrect: Compression changes transfer encoding rather than performing the specified source-character reduction.

B - Incorrect: Caching reuses a representation rather than rewriting its source characters.

C - Correct: Minification is the source-character reduction step.

D - Incorrect: Encryption protects confidentiality rather than simplifying source formatting.

Primary note proof

Study-note section WEB39

> Minification removes unnecessary source characters; bundling combines files; compression changes transfer encoding; preloading fetches anticipated resources early.

Study-note section WEB39

Caching reuses a representation/result and requires validity/invalidation rules.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 45 | lines 28-31

As a rule, only the simplest scripts are put into HTML. More complex ones reside in separate files.
The benefit of a separate file is that the browser will download it and store it in its cache.

Question sources

Computer Science MCQ practice collection · Question 83

Question 194 | AM0084

Which client-side technique is used to handle and process user interactions, such as mouse clicks or keyboard inputs?

A. Event handling

B. Form validation

C. Responsive design

D. Browser compatibility

Hint

Separate event dispatch, handler registration and cancellation of the browser default action.

Answer A: Event handling

Events signal user actions and handlers run functions in response, including click events (p.53). A names this mechanism. Validation is a particular task, and responsive design/browser compatibility do not name action dispatch. Evidence: PDF p. 53.

Why each choice is right or wrong

A - Correct: Exact handler mechanism.

B - Incorrect: Checks fields rather than the general interaction mechanism.

C - Incorrect: Adapts layout rather than dispatching user actions.

D - Incorrect: Cross-browser support is not the event dispatch mechanism.

Primary note proof

Study-note section WEB21

An event handler runs when an event occurs: click, input, keydown, mouseover, submit and load are examples.

Study-note section WEB14

Browser compatibility requires feature testing and fallbacks; responsive size handling is a different issue.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 53 | lines 4-18

4.10.3 Events in JavaScript
An event is a signal that something has happened. All DOM nodes generate such signals (but events are not limited to DOM).
Here's a list of the most useful DOM events, just to take a look at:
- click - when the mouse clicks on an element (touchscreen devices generate it on a tap).
- contextmenu - when the mouse right-clicks on an element.
- mouseover / mouseout - when the mouse cursor comes over / leaves an element.
- mousedown / mouseup - when the mouse button is pressed / released over an element.
- mousemove - when the mouse is moved.
Event Handlers
To react on events we can assign a handler - a function that runs in case of an event.
Handlers are a way to run JavaScript code in case of user actions.

Question sources

Computer Science MCQ practice collection · Question 84

Question 195 | AM0085

Which client-side technique is used to ensure that a web page displays correctly across different devices and screen sizes?

A. Event handling

B. Form validation

C. Responsive design

D. Browser compatibility

Hint

Identify the requested presentation effect and layout context before matching the property or rule.

Answer C: Responsive design

Responsive websites support desktop/tablet/phone screen sizes in the Bootstrap chapter. That fits devices and screen sizes; browser compatibility is a related but different browser-engine concern. Evidence: PDF p. 91.

Why each choice is right or wrong

A - Incorrect: Handles actions rather than screen size.

B - Incorrect: Checks input rather than screen size.

C - Correct: Exact screen adaptation concept.

D - Incorrect: Different browsers are a separate axis from device dimensions.

Primary note proof

Study-note section WEB14

> Responsive design combines flexible layout, images, viewport metadata and media queries, for example @media(max-width:600px){.cards{grid-template-columns:1fr}}.

Study-note section WEB14

> Browser compatibility requires feature testing and fallbacks; responsive size handling is a different issue.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 91 | lines 6-13

> Now a days the website you build has to support all browser types and all sizes of screen (Desktop, Tablets, Phones etc..). To make that possible we use different frameworks. This part of the chapter will introduce you to the Bootstrap framework.
> Bootstrap is a free front end framework for faster and easier web development.
> It is s an open-source tool collection for creating responsive websites and web applications. It is the most popular HTML, CSS, and JavaScript framework for developing responsive, mobile-first websites.

Question sources

Computer Science MCQ practice collection · Question 85

Question 196 | AM0086

Which browser technique sends an asynchronous HTTP request, then processes a JSON response through a callback or promise without reloading the whole page? Choose the technique, rather than a resource-interface style or a persistent messaging protocol.

A. AJAX

B. Websockets

C. RESTful API

D. Bootstrap

Hint

Identify the execution side and communication pattern, keeping runtime, transport, data format and callback roles distinct.

Answer A: AJAX

AJAX describes asynchronous browser/server requests and response handling; despite its name, the returned data need not be XML and can be JSON. The scenario specifically uses an HTTP request with a later handler rather than a persistent bidirectional messaging channel. A RESTful API describes a resource-interface architecture that the request might use, while Bootstrap supplies interface components. Those can coexist with the interaction but do not name the requested browser technique.

Why each choice is right or wrong

A - Correct: AJAX names the asynchronous HTTP request-and-response technique described.

B - Incorrect: WebSocket is a persistent bidirectional messaging channel rather than this HTTP-request technique.

C - Incorrect: REST describes resource-interface constraints, not the requested browser execution technique.

D - Incorrect: Bootstrap supplies interface components, not this request-handling technique.

Primary note proof

Study-note section WEB34

> AJAX means Asynchronous JavaScript and XML, but responses can be JSON, text, HTML or XML.

Study-note section WEB34

> A callback is a function invoked later by the runtime/API.

Study-note section WEB35

> WebSocket establishes a persistent bidirectional message channel after its handshake.

Study-note section WEB05

> A RESTful API follows constraints such as client/server separation, stateless requests, cacheability and a uniform resource interface.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 89 | lines 4-13

> AJAX is a web development technique for creating interactive web applications.
> AJAX stands for Asynchronous JavaScript and XML. It can send and receive
> information in various formats, including JSON, XML, HTML, and text files. AJAX
> is a new technique for creating better, faster, and more interactive web applications
> with the help of XML, HTML, CSS, and Java Script. AJAX’s most appealing
> characteristic is its "asynchronous" nature, which means it can communicate with the

server, exchange data, and update the page without having to refresh the page.
The two major features of AJAX allow you to do the following:
- Make requests to the server without reloading the page
- Receive and work with data from the server

Web Programming module | PDF page 91 | lines 10-13

Bootstrap is a free front end framework for faster and easier web development.
It is s an open-source tool collection for creating responsive websites and web applications. It is the most popular HTML, CSS, and JavaScript framework for developing responsive, mobile-first websites.

Question sources

Computer Science MCQ practice collection · Question 86

Question 197 | AM0087

Which listed technologies can implement interactive behaviors such as tooltips and modals, with suitable application code or components? Select all that apply.

A. jQuery

B. React

C. Angular

D. Vue.js

Hint

Match the stated application requirement to the capabilities and category of each technology.

Answer A, B, C, D: jQuery; React; Angular; Vue.js

Tooltips and modals are interface behaviors, not a unique signature of one library or platform. jQuery can manipulate the DOM, while React, Angular and Vue can implement such interactions through component-based application logic. The question explicitly permits suitable code or components, so it does not claim every behavior is bundled into each technology by default. All four can contribute and therefore belong in the selection.

Why each choice is right or wrong

A - Correct: jQuery DOM operations can implement the stated interactions.

B - Correct: React components can implement the stated interactions.

C - Correct: Angular components can implement the stated interactions.

D - Correct: Vue components can implement the stated interactions.

Primary note proof

Study-note section WEB38

jQuery simplifies DOM operations; React builds component interfaces; Angular is a component platform, distinct from older AngularJS; Vue also builds interactive interfaces.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 91 | lines 19-29

3. Has lots of component and a good grid system
4. It creates Platform-independent web pages.
5. It creates Responsive Web-pages.
6. It is designed to be responsive to mobile devices too.
How to use Bootstrap
To add bootstrap you can either use the bootstrapCDN or you can download it and use it locally. Here are the steps to add the bootstrapCDN to our project,
1. Copy-paste the stylesheet <link> into your <head> before all other stylesheets to load our CSS.
2. Many of Bootstrap components require the use of JavaScript to function. Specifically, they require jQuery, Popper.js, and boostrap JavaScript plugins.

Web Programming module | PDF page 94 | lines 14-17

d. React.js
React.js is an open-source front-end JavaScript library for building user interfaces based on UI components. React builds encapsulated component that manage their own state, then compose them to complex UIs. To build for the web, developers use

Web Programming module | PDF page 93 | lines 12-19

c. Angular.js
Angular is a development platform, built on TypeScript. As a platform, Angular includes:
1. A component-based framework for building scalable web applications
2. A collection of well-integrated libraries that cover a wide variety of features, including routing, forms management, client-server communication, and more
3. A suite of developer tools to help you develop, build, test, and update your code

Question sources

Computer Science MCQ practice collection · Question 87

Question 198 | AM0088

Which client-side technique is used to create visually appealing and responsive layouts for web pages?

A. HTML

B. CSS

C. JavaScript

D. PHP

Hint

Identify the requested presentation effect and layout context before matching the property or rule.

Answer B: CSS

CSS is explicitly presentation code, including layout properties; HTML supplies structure, JavaScript behavior and PHP server processing. B is the intended layout-styling technology. Evidence: PDF p. 26, PDF p. 37, PDF p. 60.

Why each choice is right or wrong

A - Incorrect: Structure rather than the principal styling layer.

B - Correct: Styles and layout match the CSS presentation role.

C - Incorrect: Behavior rather than primary layout styling.

D - Incorrect: Server output rather than browser styling rules.

Primary note proof

Study-note section WEB01

> HTML supplies structure/meaning; CSS controls presentation; JavaScript supplies programmable interactivity.

Study-note section WEB14

> Responsive design combines flexible layout, images, viewport metadata and media queries, for example @media(max-width:600px){.cards{grid-template-columns:1fr}}.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 26 | lines 4-16

> In the previous chapter we have seen how to structure a web page using HTML.
> Now it is time to add presentation to our sites, to do that we will be using a technology called CSS. CSS (Cascading Style Sheets) is the code that styles web content. Using CSS you can apply styles to make web pages look exactly how you want. This works because CSS is connected to the DOM(Document Object Model). CSS is not a programming language. It's not a markup language either. CSS is a style sheet

language. CSS is what you use to selectively style HTML elements.
p {
color: red;
}
3.1.1 Introduction to CSS
CSS stands for Cascading Style Sheet. It is a stylesheet language used to describe the presentation of a document written in HTML. Styles define how to display HTML

Web Programming module | PDF page 37 | lines 15-18

Display
The display CSS property sets whether an element is treated as a block or inline element and the layout used for its children, such as flow layout, grid or flex. Formally, the display property sets an element's inner and outer display types. The

Web Programming module | PDF page 60 | lines 4-10

PHP is a server-side scripting language, which can be embedded in HTML or used as a standalone binary (although the former use is much more common). PHP stands for Hypertext Preprocessor. The product was originally named Personal Home Page Tools, and many people still think that is what the acronym stands for. But as it expanded in scope, a new and more appropriate name was selected by community vote. PHP is the language that you use to make the server generate dynamic output-output that is potentially different each time a browser re-quests a page.

Question sources

Computer Science MCQ practice collection · Question 88

Question 199 | AM0089

Which client-side technique is used to optimize web page loading speed by preloading resources in advance?

A. Compression

B. Minification

C. Caching

D. Preloading

Hint

Distinguish the purpose of each development or performance technique from its possible side effects.

Answer D: Preloading

WEB39 defines preloading as fetching anticipated resources early. That exactly matches preloading resources in advance in the stem. Compression and minification change transfer or source size, while caching reuses a representation already obtained. Preloading can help loading speed when chosen well, but excessive early fetching can compete with critical work, so performance should be measured.

Why each choice is right or wrong

A - Incorrect: Compression changes transfer representation or size rather than initiating anticipated resource fetches early.

B - Incorrect: Minification removes unnecessary source characters rather than prefetching resources before demand.

C - Incorrect: Caching reuses retained results; it is distinct from initiating an early fetch of anticipated resources.

D - Correct: Preloading fetches anticipated resources early, matching the advance-loading technique described.

Primary note proof

Study-note section WEB39

> Minification removes unnecessary source characters; bundling combines files; compression changes transfer encoding; preloading fetches anticipated resources early.

Study-note section WEB39

> Measure performance because excess preloading/bundling may compete with critical work.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 45 | lines 28-31

> As a rule, only the simplest scripts are put into HTML. More complex ones reside
> in separate files.
> The benefit of a separate file is that the browser will download it and store it in its
> cache.

Question sources

Computer Science MCQ practice collection · Question 89

Question 200 | AM0090

Which client-side technique is used to ensure that a web page displays correctly in different web browsers?

A. Event handling

B. Form validation

C. Responsive design

D. Browser compatibility

Hint

Identify the requested presentation effect and layout context before matching the property or rule.

Answer D: Browser compatibility

The framework chapter says sites must support all browser types as well as screen sizes. Different-browser correctness is browser compatibility; responsive design concerns the separate size/device aspect. Evidence: PDF p. 91.

Why each choice is right or wrong

A - Incorrect: Handles interactions rather than browser differences.

B - Incorrect: Checks form input rather than browser rendering support.

C - Incorrect: Screen-size adaptation is a separate requirement.

D - Correct: Names the cross-browser correctness requirement.

Primary note proof

Study-note section WEB14

> Browser compatibility requires feature testing and fallbacks; responsive size handling is a different issue.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 91 | lines 6-9

> Now a days the website you build has to support all browser types and all sizes of screen (Desktop, Tablets, Phones etc..). To make that possible we use different frameworks. This part of the chapter will introduce you to the Bootstrap framework.

Question sources

Computer Science MCQ practice collection · Question 90

Question 201 | AM0091

What is the purpose of HTML in web programming?

A. To control the visual appearance of web pages

B. To handle server-side processing and database interactions

C. To specify the structure and content of web pages

D. To add interactivity and dynamic behavior to web pages

Hint

Identify the role requested and compare it with the definitions and constraints in the cited passages.

Answer C: To specify the structure and content of web pages

HTML defines the meaning and structure of web content. The module separately assigns appearance to CSS and behavior to JavaScript, while PHP handles server-side output. Evidence: PDF p. 10, PDF p. 60.

Why each choice is right or wrong

A - Incorrect: CSS presentation role.

B - Incorrect: Server scripting/database role.

C - Correct: Exact HTML structure/content role.

D - Incorrect: JavaScript behavior role.

Primary note proof

Study-note section WEB01

> HTML supplies structure/meaning; CSS controls presentation; JavaScript supplies programmable interactivity.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 10 | lines 9-16

> HTML (HyperText Markup Language) is the most basic building block of the Web.
> HTML is not a programming language rather it is a markup language that tells web browsers how to structure the web page. HTML consists of a series of elements, which you use to enclose, wrap or markup different parts of content to make it appear or act in a certain way.
> HTML defines the meaning and structure of web content. Other technologies besides HTML are generally used to describe a web page's appearance/presentation (CSS) or functionality/ behavior (JavaScript).

Web Programming module | PDF page 60 | lines 11-16

Client-side scripting is the glamorous, eye-catching part of Web development. In contrast, server-side scripting is invisible to the user. Server-side Web scripting is mostly about connecting Web sites to back-end servers, such as databases. This enables the following types of two-way communication:
➢ Server to client: Web pages can be assembled from back end-server output.
➢ Client to server: Customer-entered information can be acted upon.

Question sources

Computer Science MCQ practice collection · Question 91

Question 202 | AM0092

Which HTML element is used to create a heading in a web page?

A. <p>

B.

C. <h1>

D. <a>

Hint

Use the element or attribute meaning and document structure, rather than appearance or a similar-looking name.

Answer C: <h1>

Heading formats range from h1 to h6 (p.15). The displayed h1 choice is one of these; p is paragraph, a is link, and div is not identified as a heading format. Evidence: PDF p. 15, PDF p. 15, PDF p. 14.

Why each choice is right or wrong

A - Incorrect: Paragraph rather than heading.

B - Incorrect: Not one of the documented heading tags.

C - Correct: Documented heading tag.

D - Incorrect: Anchor/link rather than heading.

Primary note proof

Study-note section WEB06

Heading levels h1-h6 express hierarchy, with h6 conventionally smallest in default styling, not a mandatory CSS size.

Study-note section WEB06

<p> marks paragraphs;
 is a line break and <hr> a thematic break.

Study-note section WEB07

Use Read for a link; href is the destination, not url/link.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 15 | lines 5-12

Headings -
Headings are predefined formats for text presentation and there are six heading formats defined in HTML:
<h1> up to <h6>
<h1> the largest font size
<h6> the smallest font size
Format :<h1>...</h1>
E.g., <h2>a text in heading two</h2>

Web Programming module | PDF page 15 | lines 27-30

Paragraph: definition of paragraph
Format: ...
E.g., this is a paragraph of text. it has a new line before and after it.
The browser inserts a new line before and after the text in the paragraph tag.

Web Programming module | PDF page 14 | lines 5-9

In HTML, a link is created by wrapping the text or other content inside an <a> tag (anchor tag) and using the href attribute, also known as Hypertext reference, or target that contains the web address.
Here is an example of a link to the google website
Google.

Question sources

Computer Science MCQ practice collection · Question 92

Question 203 | AM0093

Which HTML element is used to create a paragraph in a web page?

A. <h1>

B.

C.

D. <a>

Hint

Use the element or attribute meaning and document structure, rather than appearance or a similar-looking name.

Answer C:

The paragraph section gives ... explicitly. Headings and anchors have their own different formats, so C is the named paragraph element. Evidence: PDF p. 15, PDF p. 15, PDF p. 14.

Why each choice is right or wrong

A - Incorrect: Heading, not paragraph.

B - Incorrect: Generic container is not the specified paragraph element.

C - Correct: Exact paragraph element.

D - Incorrect: Anchor/link, not paragraph.

Primary note proof

Study-note section WEB06

> marks paragraphs;
 is a line break and <hr> a thematic break.

Study-note section WEB06

> Heading levels h1-h6 express hierarchy, with h6 conventionally smallest in default styling, not a mandatory CSS size.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 15 | lines 27-30

> Paragraph: definition of paragraph
> Format: ...
> E.g., this is a paragraph of text. it has a new line before and after it.
> The browser inserts a new line before and after the text in the paragraph tag.

Web Programming module | PDF page 15 | lines 5-10

> Headings -
> Headings are predefined formats for text presentation and there are six heading formats defined in HTML:
> <h1> up to <h6>
> <h1> the largest font size
> <h6> the smallest font size

Web Programming module | PDF page 14 | lines 5-9

> In HTML, a link is created by wrapping the text or other content inside an <a> tag (anchor tag) and using the href attribute, also known as Hypertext reference, or target that contains the web address.
> Here is an example of a link to the google website
> Google.

Question sources

Computer Science MCQ practice collection · Question 93

Question 204 | AM0094

Which HTML element is used to create an unordered list in a web page?

A.

B.

C.

D. <a>

Hint

Use the element or attribute meaning and document structure, rather than appearance or a similar-looking name.

Answer A:

The module names ul unordered lists and shows li nested inside it. ol is ordered, while a provides hyperlinks. Evidence: PDF p. 18, PDF p. 19, PDF p. 19, PDF p. 14.

Why each choice is right or wrong

A - Correct: Unordered-list container.

B - Incorrect: List item rather than container.

C - Incorrect: Ordered-list container.

D - Incorrect: Link rather than list container.

Primary note proof

Study-note section WEB08

> Unordered <ul> and ordered <ol> contain <li> items.

Study-note section WEB07

> Use Read for a link; href is the destination, not url/link.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 18 | lines 38-40

> 2.2.8 Ordered and Unordered List in HTML
> Lists
> I. Unordered Lists (ul) - define bulleted lists

Web Programming module | PDF page 19 | lines 2-5

>
> ...

......

Web Programming module | PDF page 19 | lines 14-20

II. Ordered Lists (ol) - element represents an ordered list of items - typically rendered as a numbered list.
Format:

...
......

Web Programming module | PDF page 14 | lines 5-9

In HTML, a link is created by wrapping the text or other content inside an <a> tag (anchor tag) and using the href attribute, also known as Hypertext reference, or target that contains the web address.
Here is an example of a link to the google website
Google.

Question sources

Computer Science MCQ practice collection · Question 94

Question 205 | AM0095

Which HTML element is used to create a link in a web page?

A. <h1>

B.

C. <p>

D. <a>

Hint

Use the element or attribute meaning and document structure, rather than appearance or a similar-looking name.

Answer D: <a>

An HTML hyperlink wraps its text in an a element with href (p.14). D names that anchor element. Evidence: PDF p. 14, PDF p. 15, PDF p. 15.

Why each choice is right or wrong

A - Incorrect: Heading, not link element.

B - Incorrect: Not the documented anchor element.

C - Incorrect: Paragraph, not anchor.

D - Correct: Exact anchor/link element.

Primary note proof

Study-note section WEB07

> Use Read for a link; href is the destination, not url/link.

Study-note section WEB06

> marks paragraphs;
 is a line break and <hr> a thematic break.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 14 | lines 5-9

> In HTML, a link is created by wrapping the text or other content inside an <a> tag
> (anchor tag) and using the href attribute, also known as Hypertext reference, or target
> that contains the web address.
> Here is an example of a link to the google website
> Google.

Web Programming module | PDF page 15 | lines 5-10

> Headings -
> Headings are predefined formats for text presentation and there are six heading
> formats defined in HTML:
> <h1> up to <h6>
> <h1> the largest font size
> <h6> the smallest font size

Web Programming module | PDF page 15 | lines 27-30

> Paragraph: definition of paragraph
> Format: ...
> E.g., this is a paragraph of text. it has a new line before and after it.
> The browser inserts a new line before and after the text in the paragraph tag.

Question sources

Computer Science MCQ practice collection · Question 95

Question 206 | AM0096

Which CSS property is used to control the spacing between elements in a web page?

A. color

B. font-size

C. margin

D. padding

Hint

Identify the requested presentation effect and layout context before matching the property or rule.

Answer C: margin

The margin is expressly whitespace between a box and other elements, outside border and padding. Padding surrounds content within the box, so C fits spacing between elements. Evidence: PDF p. 36, PDF p. 34.

Why each choice is right or wrong

A - Incorrect: Foreground color, not spacing.

B - Incorrect: Text size, not external spacing.

C - Correct: Exact outer whitespace between elements.

D - Incorrect: Internal whitespace around content, not outer margin.

Primary note proof

Study-note section WEB13

> color sets text color; background-color sets background; font-size size, font-family face, font-style italic, font-weight weight, text-align inline-content alignment, and text-decoration effects such as underline.

Study-note section WEB13

> Margin lies outside the border; padding lies inside; border surrounds content/padding.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 36 | lines 26-37

> The Box Model defines how the different parts of a box - margin, border, padding, and content - work together to create a box that you can see on a page.
> Parts of a box
> - Content box: The area where your content is displayed, which can be sized using properties like width and height.
> - Padding box: The padding sits around the content as white space; its size can be controlled using padding and related properties.
> - Border box: The border box wraps the content and any padding. Its size and style can be controlled using border and related properties.
> - Margin box: The margin is the outermost layer, wrapping the content, padding, and border as whitespace between this box and other elements. Its size can be controlled using margin and related properties.

Web Programming module | PDF page 34 | lines 20-26

> The color property sets the color of the foreground content of the selected elements
> 3.3.2 Font and Text Properties

The font CSS shorthand property sets all the different properties of an element's font. Alternatively, it sets an element's font to a system font. The property is a shorthand for the following properties
- font-family
- font-size

Question sources

Computer Science MCQ practice collection · Question 96

Question 207 | AM0097

Which CSS property is used to change the color of text in a web page?

A. color

B. font-size

C. margin

D. padding

Hint

Identify the requested presentation effect and layout context before matching the property or rule.

Answer A: color

The module explicitly defines color as setting foreground content color. Font size controls dimensions; margin/padding control whitespace. Evidence: PDF p. 34, PDF p. 36.

Why each choice is right or wrong

A - Correct: Exact foreground/text color property.

B - Incorrect: Size rather than color.

C - Incorrect: External whitespace rather than color.

D - Incorrect: Internal whitespace rather than color.

Primary note proof

Study-note section WEB13

color sets text color; background-color sets background; font-size size, font-family face, font-style italic, font-weight weight, text-align inline-content alignment, and text-decoration effects such as underline.

Study-note section WEB13

Margin lies outside the border; padding lies inside; border surrounds content/padding.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 34 | lines 20-26

> The color property sets the color of the foreground content of the selected elements
> 3.3.2 Font and Text Properties
> The font CSS shorthand property sets all the different properties of an element's font. Alternatively, it sets an element's font to a system font. The property is a shorthand for the following properties
> - font-family
> - font-size

Web Programming module | PDF page 36 | lines 31-37

> - Padding box: The padding sits around the content as white space; its size can be controlled using padding and related properties.
> - Border box: The border box wraps the content and any padding. Its size and style can be controlled using border and related properties.
> - Margin box: The margin is the outermost layer, wrapping the content, padding, and border as whitespace between this box and other elements. Its size can be controlled using margin and related properties.

Question sources

Computer Science MCQ practice collection · Question 97

Question 208 | AM0098

Which CSS property is used to change the size of text in a web page?

A. color

B. font-size

C. margin

D. padding

Hint

Identify the requested presentation effect and layout context before matching the property or rule.

Answer B: font-size

Font-size is explicitly listed as the font-size component, required in a multi-property font shorthand. B controls text size; the alternatives control color or whitespace. Evidence: PDF p. 34, PDF p. 36.

Why each choice is right or wrong

A - Incorrect: Foreground color instead of size.

B - Correct: Exact size component.

C - Incorrect: External whitespace instead of text dimensions.

D - Incorrect: Internal whitespace instead of text dimensions.

Primary note proof

Study-note section WEB13

color sets text color; background-color sets background; font-size size, font-family face, font-style italic, font-weight weight, text-align inline-content alignment, and text-decoration effects such as underline.

Study-note section WEB13

Margin lies outside the border; padding lies inside; border surrounds content/padding.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 34 | lines 20-35

The color property sets the color of the foreground content of the selected elements
3.3.2 Font and Text Properties
The font CSS shorthand property sets all the different properties of an element's font. Alternatively, it sets an element's font to a system font. The property is a shorthand for the following properties
- font-family
- font-size
- font-stretch
- font-style
- font-variant
- font-weight
- line-height
If font is specified as a shorthand for several font-related properties, then:
- it must include values for:
<font-size>
<font-family>

Web Programming module | PDF page 36 | lines 31-37

- Padding box: The padding sits around the content as white space; its size can be controlled using padding and related properties.
- Border box: The border box wraps the content and any padding. Its size and style can be controlled using border and related properties.
- Margin box: The margin is the outermost layer, wrapping the content, padding, and border as whitespace between this box and other elements. Its size can be controlled using margin and related properties.

Question sources

Computer Science MCQ practice collection · Question 98

Question 209 | AM0099

In an ordinary horizontal-writing table layout, which property vertically aligns content within a table cell?

A. text-align

B. vertical-align

C. align-content

D. justify-content

Hint

Identify the requested presentation effect and layout context before matching the property or rule.

Answer B: vertical-align

vertical-align applies in table-cell and inline contexts. With an ordinary horizontal-writing table cell specified, it controls the vertical placement of the cell's content. text-align handles inline-content text alignment, while flex or grid alignment properties have their own axis and line-distribution contexts. The table-cell qualifier is essential because vertical-align does not vertically center arbitrary block containers simply because they contain content.

Why each choice is right or wrong

A - Incorrect: text-align handles inline-content alignment rather than vertical cell placement.

B - Correct: vertical-align applies to the specified table-cell context.

C - Incorrect: align-content distributes applicable lines or tracks, not ordinary table-cell content.

D - Incorrect: justify-content follows a flex/grid main-axis context rather than this table-cell mechanism.

Primary note proof

Study-note section WEB14

> vertical-align applies to inline/table-cell contexts and does not center every block.

Study-note section WEB14

> Flexbox arranges direct children on a main axis; justify-content follows that axis, align-items the cross axis.

Study-note section WEB13

> color sets text color; background-color sets background; font-size size, font-family face, font-style italic, font-weight weight, text-align inline-content alignment, and text-decoration effects such as underline.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 35 | lines 15-21

> The text-align property is used to control how text is aligned within its containing content box. Values
> - left: Left-justifies the text.
> - right: Right-justifies the text.
> - center: Centers the text.
> - justify: Makes the text spread out, varying the gaps in between the words so that all lines of text are the same width.

Web Programming module | PDF page 37 | lines 15-18

> Display
> The display CSS property sets whether an element is treated as a block or inline element and the layout used for its children, such as flow layout, grid or flex. Formally, the display property sets an element's inner and outer display types. The

Question sources

Computer Science MCQ practice collection · Question 99

Question 210 | AM0100

Which CSS property is used to create a border around an element in a web page?

A. color

B. font-size

C. border

D. padding

Hint

Identify the requested presentation effect and layout context before matching the property or rule.

Answer C: border

The border box wraps content and padding and is controlled with border properties (p.36). The table section also explicitly says border sets borders. Evidence: PDF p. 36, PDF p. 38.

Why each choice is right or wrong

A - Incorrect: Foreground color rather than border.

B - Incorrect: Text size rather than border.

C - Correct: Exact enclosing-border property.

D - Incorrect: Whitespace inside the border, not the border itself.

Primary note proof

Study-note section WEB13

color sets text color; background-color sets background; font-size size, font-family face, font-style italic, font-weight weight, text-align inline-content alignment, and text-decoration effects such as underline.

Study-note section WEB13

Margin lies outside the border; padding lies inside; border surrounds content/padding.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 36 | lines 29-37

- Content box: The area where your content is displayed, which can be sized using properties like width and height.
- Padding box: The padding sits around the content as white space; its size can be controlled using padding and related properties.
- Border box: The border box wraps the content and any padding. Its size and style can be controlled using border and related properties.
- Margin box: The margin is the outermost layer, wrapping the content, padding, and border as whitespace between this box and other elements. Its size can be controlled using margin and related properties.

Web Programming module | PDF page 38 | lines 19-24

- border-collapse => By default, when you set borders on table elements, they will all have spacing between them. To prevent that from happening we can use the border-collapse CSS property and set its value to collapse.
- We can set borders to using the border property, we can also apply the following properties depending on out preference => padding, font, text-align, text-shadow, color, background-color and others

Question sources

Computer Science MCQ practice collection · Question 100

Question 211 | AM0101

Which CSS property is used to control the space inside the border of an element in a web page?

A. color

B. font-size

C. margin

D. padding

Hint

Identify the requested presentation effect and layout context before matching the property or rule.

Answer D: padding

Padding sits around the content as whitespace; the border wraps that padding. Therefore the internal space inside an element border is padding. Evidence: PDF p. 36.

Why each choice is right or wrong

A - Incorrect: Foreground color, not space.

B - Incorrect: Text dimensions, not space.

C - Incorrect: Outermost whitespace beyond the border.

D - Correct: Exact whitespace surrounding content inside border.

Primary note proof

Study-note section WEB13

> color sets text color; background-color sets background; font-size size, font-family face, font-style italic, font-weight weight, text-align inline-content alignment, and text-decoration effects such as underline.

Study-note section WEB13

> Margin lies outside the border; padding lies inside; border surrounds content/padding.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 36 | lines 29-37

> - Content box: The area where your content is displayed, which can be sized using properties like width and height.
> - Padding box: The padding sits around the content as white space; its size can be controlled using padding and related properties.
> - Border box: The border box wraps the content and any padding. Its size and style can be controlled using border and related properties.
> - Margin box: The margin is the outermost layer, wrapping the content, padding, and border as whitespace between this box and other elements. Its size can be controlled using margin and related properties.

Question sources

Computer Science MCQ practice collection · Question 101

Question 212 | AM0102

Which web technology is commonly used for managing the content of information-rich websites?

A. HTML

B. CSS

C. JavaScript

D. Content Management System (CMS)

Hint

Distinguish the purpose of each development or performance technique from its possible side effects.

Answer D: Content Management System

A CMS gives editors tools to create, publish, and manage content without editing each source file. That is the technology aimed at information-rich website content management. HTML structures documents, CSS styles them, and JavaScript adds behavior, but those technologies alone do not supply the complete editorial management interface described.

Why each choice is right or wrong

A - Incorrect: HTML structures document content but does not by itself provide an editorial management workflow.

B - Incorrect: CSS controls presentation rather than managing editorial content creation, publication, and roles.

C - Incorrect: JavaScript can implement behavior but is not itself the complete content-management system requested.

D - Correct: A CMS provides editor-facing creation, publishing, role, and media tools for managing website content.

Primary note proof

Study-note section WEB39

> A CMS gives editors content creation, publishing, roles and media management without editing every source file.

Study-note section WEB01

> HTML supplies structure/meaning; CSS controls presentation; JavaScript supplies programmable interactivity.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 10 | lines 9-16

> HTML (HyperText Markup Language) is the most basic building block of the Web. HTML is not a programming language rather it is a markup language that tells web browsers how to structure the web page. HTML consists of a series of elements, which you use to enclose, wrap or markup different parts of content to make it appear or act in a certain way.
> HTML defines the meaning and structure of web content. Other technologies besides HTML are generally used to describe a web page's appearance/presentation (CSS) or functionality/ behavior (JavaScript).

Web Programming module | PDF page 9 | lines 13-21

> Web hosting is the place where all the files of your website live. Web hosting is a service that allows organizations and individuals to post a website or a web page onto the Internet. A web host, or web hosting service provider, is a business that provides the technologies and services needed for the website or webpage to be viewed in the Internet. Websites are hosted, or stored, on special computers called servers. When Internet users want to view your website, all they need to do is type your website address or domain (the domain name for the site has to be registered) into their browser. Their computer will then connect to your server and your webpages will be delivered to them through the browser.

Question sources

Computer Science MCQ practice collection · Question 102

Question 213 | AM0103

What is the database’s direct role in a web application?

A. To control the visual appearance of web pages

B. To store persistent application data and support queries over that data

C. To specify the structure and content of web pages

D. To add interactivity and dynamic behavior to web pages

Hint

Identify the API and operation first, then distinguish connection setup, statement execution and result processing.

Answer B: To store persistent application data and support queries over that data

A database stores persistent structured application facts and supports operations that retrieve or change them. It is not the whole application server, which also performs validation, authorization and response generation. HTML describes document structure, CSS controls visual presentation and browser scripting supplies client interaction. The option states the database’s actual storage/query role rather than attributing all server-side processing to it.

Why each choice is right or wrong

A - Incorrect: Visual presentation is the role of CSS.

B - Correct: Persistent data storage and queries are the database's direct role.

C - Incorrect: Document structure is the role of HTML.

D - Incorrect: Client-side interactivity is a scripting role rather than the database's direct purpose.

Primary note proof

Study-note section WEB31

> MySQL is a relational DBMS; a database persists structured application data and supports concurrent clients.

Study-note section WEB39

> A database stores persistent facts; it is not itself the whole server application.

Study-note section WEB01

> HTML supplies structure/meaning; CSS controls presentation; JavaScript supplies programmable interactivity.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 78 | lines 24-31

> MySQL, the most popular Open Source SQL database management system, is developed, distributed, and supported by Oracle Corporation. It is a separate application that stores a collection of data. Each database has one or more distinct APIs for creating, accessing, managing, searching and replicating the data it holds.
> - MySQL is a database management system.
> A database is a structured collection of data. It may be anything from a simple shopping list to a picture gallery or the vast amounts of information in a corporate network.

Web Programming module | PDF page 60 | lines 11-16

> Client-side scripting is the glamorous, eye-catching part of Web development. In contrast, server-side scripting is invisible to the user. Server-side Web scripting is mostly about connecting Web sites to back-end servers, such as databases. This enables the following types of two-way communication:
> ➢ Server to client: Web pages can be assembled from back end-server output.
> ➢ Client to server: Customer-entered information can be acted upon.

Web Programming module | PDF page 10 | lines 14-16

> HTML defines the meaning and structure of web content. Other technologies besides HTML are generally used to describe a web page's appearance/presentation (CSS) or functionality/ behavior (JavaScript).

Question sources

Computer Science MCQ practice collection · Question 103

Question 214 | AM0104

Which SQL statement is used to retrieve data from a database?

A. INSERT INTO

B. UPDATE

C. DELETE FROM

D. SELECT

Hint

Identify the API and operation first, then distinguish connection setup, statement execution and result processing.

Answer D: SELECT

The SELECT query example selects all student records and then fetches them. INSERT, UPDATE and DELETE are listed as other commands, not the demonstrated retrieval operation. Evidence: PDF p. 80, PDF p. 80.

Why each choice is right or wrong

A - Incorrect: Not the retrieval command used in the example.

B - Incorrect: Not the retrieval command used in the example.

C - Incorrect: Not the retrieval command used in the example.

D - Correct: SELECT is used before fetching records.

Primary note proof

Study-note section WEB32

> SELECT retrieves rows; INSERT adds; UPDATE ...

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 80 | lines 2-15

> 5.13.3 Sending Query to MySQL Database using PHP
> A database query from PHP is basically a MySQL command wrapped up in a tiny
> PHP function called mysql_query(). This is where you use the basic SQL workhorses
> of SELECT,
> INSERT, UPDATE, and DELETE, CREATE or DROP a table (but not those to create
> or drop an entire database) can be used with this PHP function.
> Syntax:
> [$resultvar=] mysql_query(“query”,[link identifier]);
> $resultvar - is an optional result variable. This is used when the query is a select
> statement.
> Query - is any valid insert, delete, update, select, create table or drop table
> statement enclosed by quotes. It is a good habit to hold the query in a separate variable

to add flexibility to your code.
Link identifier-is an optional link identifier

Web Programming module | PDF page 80 | lines 24-29

Example: assume the student table has three attrubutes - id,name and department.
$query=”select * from student”;
$result=mysql_query($query);
while($row=mysql_fetch_row($result)){
echo “$row[0].$row[1].$row[2]”;//counting
starts from 0 not 1

Question sources

Computer Science MCQ practice collection · Question 104

Question 215 | AM0105

A server starts by executing the following CommonJS source directly and registers a callback for incoming HTTP requests:
const http = require("node:http");
http.createServer((req, res) => { res.end("Ready"); }).listen(8000);
Which listed programming language is executing this request handler?

A. HTML

B. CSS

C. JavaScript

D. PHP

Hint

Identify the execution side and communication pattern, keeping runtime, transport, data format and callback roles distinct.

Answer C: JavaScript

The CommonJS server runs in Node.js, which is a JavaScript runtime rather than a separate programming language. The require call loads the HTTP module, and the callback passed to createServer handles incoming requests and ends each response. PHP can also generate server responses, but this particular source uses the Node JavaScript API and syntax. HTML and CSS do not execute the handler as a server program.

Why each choice is right or wrong

A - Incorrect: HTML supplies document structure rather than executing the module load and request callback.

B - Incorrect: CSS supplies presentation rules rather than this executable request handler.

C - Correct: Node.js executes this CommonJS request handler as JavaScript.

D - Incorrect: PHP supports server programming but does not directly execute this CommonJS source.

Primary note proof

Study-note section WEB01

> Node.js is a JavaScript runtime, not a separate language.

Study-note section WEB36

> A minimal CommonJS Node server can use const http=require("node:http"); http.createServer((req,res)=>{res.writeHead(200,{"Content-Type":"text/plain"});res.end("Hello");}).listen(8000);.

Study-note section WEB36

> The request listener runs for incoming requests; end completes the response.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 60 | lines 4-10

> PHP is a server-side scripting language, which can be embedded in HTML or used as a standalone binary (although the former use is much more common). PHP stands for Hypertext Preprocessor. The product was originally named Personal Home Page Tools, and many people still think that is what the acronym stands for. But as it expanded in scope, a new and more appropriate name was selected by community vote. PHP is the language that you use to make the server generate dynamic output-output that is potentially different each time a browser re-quests a page.

Web Programming module | PDF page 92 | lines 6-9

> b. Node.js
> Node is an open source, cross platform runtime environment that allows developers to create server-side tools and applications in JavaScript. As an asynchronous event-driven JavaScript runtime, Node.js is designed to build scalable network applications.

Web Programming module | PDF page 10 | lines 9-16

> HTML (HyperText Markup Language) is the most basic building block of the Web. HTML is not a programming language rather it is a markup language that tells web browsers how to structure the web page. HTML consists of a series of elements, which you use to enclose, wrap or markup different parts of content to make it appear or act in a certain way.
> HTML defines the meaning and structure of web content. Other technologies besides HTML are generally used to describe a web page's appearance/presentation (CSS) or functionality/ behavior (JavaScript).

Question sources

Computer Science MCQ practice collection · Question 105

Computer Science MCQ practice collection · Question 123

Question 216 | AM0106

Which HTML form element is used to create a text input field?

A. <input type="text">

B. <input type="checkbox">

C. <input type="radio">

D. <input type="submit">

Hint

Separate the control role, displayed content, submitted value and form destination.

Answer A: <input type="text">

The input type list identifies text as the usual text input and distinguishes checkbox/radio. The example on p.56 uses input type=text with a Name field. Evidence: PDF p. 22, PDF p. 56, PDF p. 22.

Why each choice is right or wrong

A - Correct: Exact text-input type.

B - Incorrect: Checkbox type instead.

C - Incorrect: Radio type instead.

D - Incorrect: Button submission type instead of text entry.

Primary note proof

Study-note section WEB-S02

> In an input element, type="text" creates text entry, type="checkbox" an independently selectable checkbox, type="radio" a radio choice, and type="submit" a submit button.

Study-note section WEB09

> Same-name radio buttons form a single-choice group; checkboxes permit independent selections.

Study-note section WEB09

> submit submits; button has no submission action by itself.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 22 | lines 2-9

> 1. Text inputs create using the <input> tag, an input control can take many forms
> using the type attribute. Possible values for type attribute
> - Text - most common used for text inputs
> - Password - for password fields

- Checkbox
- Radio
Other attributes for <input> tag
- Name, value, size, maxlength

Web Programming module | PDF page 56 | lines 2-2

<input type = "text" name = "Name" />

Web Programming module | PDF page 22 | lines 21-24

5. Button controls → we can control various types of buttons in HTML. We can create a clickable button by using the <input> tag and setting the type attribute to one of the following values
- Submit, reset, button, image

Question sources

Computer Science MCQ practice collection · Question 106

Question 217 | AM0107

Which HTML form element is used to create a checkbox?

A. <input type="text">

B. <input type="checkbox">

C. <input type="radio">

D. <input type="submit">

Hint

Separate the control role, displayed content, submitted value and form destination.

Answer B: <input type="checkbox">

The module input type list includes Checkbox separately from Text and Radio. Therefore input type=checkbox is the checkbox control, not a text field, radio choice or submit button. Evidence: PDF p. 22, PDF p. 22.

Why each choice is right or wrong

A - Incorrect: Text entry control.

B - Correct: Exact checkbox type.

C - Incorrect: Radio control instead.

D - Incorrect: Submit button instead.

Primary note proof

Study-note section WEB-S02

In an input element, type="text" creates text entry, type="checkbox" an independently selectable checkbox, type="radio" a radio choice, and type="submit" a submit button.

Study-note section WEB09

Same-name radio buttons form a single-choice group; checkboxes permit independent selections.

Study-note section WEB09

submit submits; button has no submission action by itself.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 22 | lines 2-9

1. Text inputs create using the <input> tag, an input control can take many forms using the type attribute. Possible values for type attribute
- Text - most common used for text inputs
- Password - for password fields
- Checkbox
- Radio
Other attributes for <input> tag
- Name, value, size, maxlength

Web Programming module | PDF page 22 | lines 21-24

5. Button controls → we can control various types of buttons in HTML. We can create a clickable button by using the <input> tag and setting the type attribute to one of the following values
- Submit, reset, button, image

Question sources

Computer Science MCQ practice collection · Question 107

Question 218 | AM0108

Which HTML form element is used to create a radio button?

A. <input type="text">

B. <input type="checkbox">

C. <input type="radio">

D. <input type="submit">

Hint

Separate the control role, displayed content, submitted value and form destination.

Answer C: <input type="radio">

The module distinguishes the Radio input type from Text and Checkbox. C therefore specifies a radio button. Evidence: PDF p. 22, PDF p. 22.

Why each choice is right or wrong

A - Incorrect: Text entry instead.

B - Incorrect: Checkbox instead.

C - Correct: Exact radio input type.

D - Incorrect: Submit button instead.

Primary note proof

Study-note section WEB-S02

> In an input element, type="text" creates text entry, type="checkbox" an independently selectable checkbox, type="radio" a radio choice, and type="submit" a submit button.

Study-note section WEB09

> Same-name radio buttons form a single-choice group; checkboxes permit independent selections.

Study-note section WEB09

> submit submits; button has no submission action by itself.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 22 | lines 2-9

> 1. Text inputs create using the <input> tag, an input control can take many forms using the type attribute. Possible values for type attribute
> - Text - most common used for text inputs
> - Password - for password fields
> - Checkbox
> - Radio
> Other attributes for <input> tag
> - Name, value, size, maxlength

Web Programming module | PDF page 22 | lines 21-24

> 5. Button controls → we can control various types of buttons in HTML. We can create a clickable button by using the <input> tag and setting the type attribute to one of the following values
> - Submit, reset, button, image

Question sources

Computer Science MCQ practice collection · Question 108

Question 219 | AM0109

Which HTML form element is used to create a button that submits a form?

A. <input type="text">

B. <input type="checkbox">

C. <input type="radio">

D. <input type="submit">

Hint

Separate the control role, displayed content, submitted value and form destination.

Answer D: <input type="submit">

The button-controls list includes Submit as an input type. Combined with the form submission description, D is the form-submitting button; the others collect text or selections. Evidence: PDF p. 22, PDF p. 21, PDF p. 22.

Why each choice is right or wrong

A - Incorrect: Text input, not submission button.

B - Incorrect: Checkbox selection, not submission button.

C - Incorrect: Radio selection, not submission button.

D - Correct: Submit button as listed in the controls section.

Primary note proof

Study-note section WEB-S02

> In an input element, type="text" creates text entry, type="checkbox" an independently selectable checkbox, type="radio" a radio choice, and type="submit" a submit button.

Study-note section WEB09

> Same-name radio buttons form a single-choice group; checkboxes permit independent selections.

Study-note section WEB09

> submit submits; button has no submission action by itself.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 22 | lines 21-24

> 5. Button controls → we can control various types of buttons in HTML. We can create a clickable button by using the <input> tag and setting the type attribute to one of the following values
> - Submit, reset, button, image

Web Programming module | PDF page 21 | lines 13-20

> 2.2.10 HTML Form and Form Controls
> The <form> HTML element represents a document section containing interactive controls for submitting information. An HTML form is a section of a document containing normal content, markup, special elements called controls (checkboxes, radio buttons, menus, etc.) and labels on those controls. HTML Forms are required, when we want to collect data from a user. Using forms, we can build a website with user registration. We take the information collected from the user and then post it to the backend application such as php.

Web Programming module | PDF page 22 | lines 2-7

> 1. Text inputs create using the <input> tag, an input control can take many forms using the type attribute. Possible values for type attribute
> - Text - most common used for text inputs
> - Password - for password fields
> - Checkbox
> - Radio

Question sources

Computer Science MCQ practice collection · Question 109

Question 220 | AM0110

Which client-side programming language can run a custom submit handler that compares two form fields and cancels submission when they disagree?

A. HTML

B. CSS

C. JavaScript

D. PHP

Hint

Separate event dispatch, handler registration and cancellation of the browser default action.

Answer C: JavaScript

JavaScript can run browser event handlers, inspect field values and call preventDefault when a custom validity check fails. This supports a comparison between fields before submission. HTML supplies native constraints such as required or type=email, but those constraints are not the custom scripted comparison requested. CSS controls presentation, and PHP processes server requests after submission rather than running the browser handler.

Why each choice is right or wrong

A - Incorrect: HTML supplies native field constraints, but is not the programming language executing the custom comparison handler.

B - Incorrect: CSS controls presentation rather than executing submit-handler logic.

C - Correct: JavaScript executes the browser submit handler and can cancel the default submission on a failed comparison.

D - Incorrect: PHP runs the server-side processing, not this browser event handler.

Primary note proof

Study-note section WEB21

> For submission, form.addEventListener("submit",e=>{if(!valid()){e.preventDefault();}}) stops the default only on failure.

Study-note section WEB09

> type=email/required give browser validation feedback; arbitrary clients can bypass it.

Study-note section WEB01

> HTML supplies structure/meaning; CSS controls presentation; JavaScript supplies programmable interactivity.

Study-note section WEB01

> PHP, Python, JSP/Java and ASP.NET applications generate server responses and access databases; C# is commonly used with ASP.NET.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 55 | lines 4-18

> Now inside the submit event handler function we call the event.preventDefault()
> method to prevent the default behavior and avoid a form submit to reload the page,
> this gives us control. After we gain control over the submit event we can all kind of
> stuff, like form validation
> Here is a simple but different way of validating a form using javascript
> Form Validation
> <html>
> <head>
> <title>Form Validation</title>
> <script type = "text/javascript">
> if(document.myForm.Name.value == "") {
> alert("Please provide your name!");
> document.myForm.Name.focus() ;
> return false;
> }

Web Programming module | PDF page 73 | lines 2-7

> Form validation is done to ensure that the user has provided the relevant information.
> Basic validation can be done using HTML elements. For example, in the above
> script, the email address text box is having a type value as “email”, which prevents

the user from entering the incorrect value for an email. Every form field in the above script is followed by a required attribute, which will intimate the user not to leave any field empty before submitting the form. PHP methods and arrays used in form

Web Programming module | PDF page 72 | lines 25-33

5.10 Form Processing using PHP
Handling a form is a multipart process. First a form is created, into which a user can enter the required details. This data is then sent to the web server, where it is interpreted,
often with some error checking. If the PHP code identifies one or more fields that require
reentering, the form may be redisplayed with an error message. When the code is satisfied with the accuracy of the input, it takes some action that usually involves the database.

Question sources

Computer Science MCQ practice collection · Question 110

Question 221 | AM0111

Which description defines client-server roles without requiring a particular physical-machine arrangement?

A. Client and server must be the same physical machine

B. A client requests resources or services and a server receives requests and returns responses; they may share a machine

C. Any two different browser instances automatically form client and server roles

D. Any two pages on a website automatically form client and server roles

Hint

Identify the role requested and compare it with the definitions and constraints in the cited passages.

Answer B: A client requests resources or services and a server receives requests and returns responses; they may share a machine

Client and server describe interacting roles: the client requests a resource or service and the server handles the request and returns a response. These roles can run on separate machines or on the same machine. Physical location therefore does not define the relationship. Two browser instances or two web pages also do not automatically establish a request-serving role pair. The corrected definition focuses on behavior while retaining the deployment distinction as a distractor.

Why each choice is right or wrong

A - Incorrect: The roles can share a machine, but sameness is not required.

B - Correct: This states the request/response roles and permits either physical arrangement.

C - Incorrect: Two browser instances do not automatically make one a server.

D - Incorrect: Different pages are resources, not automatically request and serving roles.

Primary note proof

Study-note section WEB01

> A browser/user agent requests resources and renders HTML/CSS, then runs permitted JavaScript.

Study-note section WEB01

> A web/HTTP server receives requests and returns representations, sometimes invoking application code.

Study-note section WEB01

> Client and server are roles and can run on the same machine.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 8 | lines 29-34

> • The World Wide Web (WWW) is most often called the Web.
> • The Web is a network of computers all over the world.
> • All the computers in the Web can communicate with each other.
> • All the computers use a communication standard called HTTP.
> How does the WWW work?
> • Web information is stored in documents called Web pages.

Web Programming module | PDF page 9 | lines 2-4

> • Web pages are files stored on computers called Web servers.
> • Computers reading the Web pages are called Web clients.
> • Web clients view the pages with a program called a Web browser.

Question sources

Computer Science MCQ practice collection · Question 111

Question 222 | AM0112

A browser sends a GET request and the web server replies with a status code and resource representation. Which application-layer protocol gives this exchange its semantics?

A. HTTP

B. FTP

C. TCP/IP

D. SMTP

Hint

Identify the role requested and compare it with the definitions and constraints in the cited passages.

Answer A: HTTP

GET and the returned status code belong to HTTP's web request/response semantics. TCP/IP may carry that exchange, but it does not define the application method or response-status meaning. FTP and SMTP serve different application purposes. The scenario therefore identifies HTTP without depending on an unstated assumption about which networking layer is being tested.

Why each choice is right or wrong

A - Correct: HTTP defines GET requests, response status codes and resource representations.

B - Incorrect: FTP does not define the stated web GET/status exchange.

C - Incorrect: TCP/IP can carry the exchange but does not define its application-level GET or status semantics.

D - Incorrect: SMTP is a mail-transfer application protocol, not the stated web request/response semantics.

Primary note proof

Study-note section WEB01

> The Internet connects networks; the Web is a resource system commonly using HTTP.

Study-note section WEB-S14

> HTTP defines web application requests, response status codes and representations.

Study-note section WEB-S14

> An HTTP exchange can use underlying TCP connections and IP addresses; naming that network stack does not identify the application-level method or status semantics.

Study-note section WEB-S14

> FTP is a file-transfer application protocol.

Study-note section WEB-S14

> SMTP transports electronic mail.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 8 | lines 29-34

> • The World Wide Web (WWW) is most often called the Web.
> • The Web is a network of computers all over the world.
> • All the computers in the Web can communicate with each other.
> • All the computers use a communication standard called HTTP.

How does the WWW work?
• Web information is stored in documents called Web pages.

Question sources

Computer Science MCQ practice collection · Question 112

Question 223 | AM0113

Which method in HTTP is used to retrieve a resource from a server?

A. GET

B. POST

C. PUT

D. DELETE

Hint

Identify the protocol layer and the intended request, response or channel semantics.

Answer A: GET

WEB04 defines GET as retrieving a representation with safe semantics. That is the retrieval operation requested. POST asks a target to process supplied content, PUT creates or replaces the identified representation, and DELETE requests removal. These are intended method semantics; a badly designed server does not change which method the standard retrieval role belongs to.

Why each choice is right or wrong

A - Correct: GET is the HTTP method whose intended semantics retrieve a resource representation.

B - Incorrect: POST requests processing of supplied content rather than naming the standard safe retrieval operation.

C - Incorrect: PUT creates or replaces an identified representation instead of simply retrieving it.

D - Incorrect: DELETE requests removal of a resource association rather than reading its representation.

Primary note proof

Study-note section WEB04

GET retrieves a representation with safe semantics; do not implement an intentional state-changing action as a GET link.

Study-note section WEB04

POST asks the target to process supplied content.

Study-note section WEB04

PUT creates/replaces the identified resource representation; DELETE requests removal of its association.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 89 | lines 25-31

In order to make an HTTP request to the server with JavaScript, you need an instance of an XMLHttpRequest Object. We make a request to the sever, by calling the open() and send() methods of the HTTP request object, like this:
httpRequest.open('GET', 'http://www.example.org/some.file', true);
httpRequest.send();
open() takes three parameters, the first is the HTTP request method and the second is the URL. The optional third parameter sets whether the request is asynchronous.

Web Programming module | PDF page 73 | lines 11-16

• $_GET[]: It is used the retrieve the information from the form control through the parameters sent in the URL. It takes the attribute given in the url as the parameter.
• $_POST[]: It is used the retrieve the information from the form control through the HTTP POST method. IT takes name attribute of corresponding form control as the parameter.

Question sources

Computer Science MCQ practice collection · Question 113

Question 224 | AM0114

Which method in HTTP is used to send data to a server for processing?

A. GET

B. POST

C. PUT

D. DELETE

Hint

Identify the protocol layer and the intended request, response or channel semantics.

Answer B: POST requests processing of supplied content.

WEB04 explicitly says POST asks the target to process supplied content, matching the intended HTTP method role. GET retrieves safely, PUT creates or replaces an identified representation, and DELETE removes an association. Those methods can carry protocol details, but the generic processing semantics in the stem are POST's specific definition.

Why each choice is right or wrong

A - Incorrect: GET's intended semantics retrieve a representation rather than request arbitrary content processing.

B - Correct: POST asks the target resource to process the supplied content.

C - Incorrect: PUT specifies creating or replacing the identified representation rather than the generic processing role.

D - Incorrect: DELETE requests removal of a resource association rather than the stated content-processing semantics.

Primary note proof

Study-note section WEB04

> GET retrieves a representation with safe semantics; do not implement an intentional state-changing action as a GET link.

Study-note section WEB04

> POST asks the target to process supplied content.

Study-note section WEB04

> PUT creates/replaces the identified resource representation; DELETE requests removal of its association.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 73 | lines 11-16

> • $_GET[]: It is used the retrieve the information from the form control through the parameters sent in the URL. It takes the attribute given in the url as the parameter.
> • $_POST[]: It is used the retrieve the information from the form control through the HTTP POST method. IT takes name attribute of corresponding form control as the parameter.

Web Programming module | PDF page 21 | lines 23-31

> Form attributes:
> - action → Backend script ready to process the data collected
> - method → method used to upload Data. The most frequently used
> - target → Specify the target window or frame where the result of the script will be displayed. It takes values like _blank, _self, _parent etc.
> - enctype → tells how the browser encodes data. Possible values
> 1. application/x-www-form-urlencoded → most common and used from simple scenarios
> 2. mutlipart/form-data → used to upload binary data

Question sources

Computer Science MCQ practice collection · Question 114

Question 225 | AM0115

Which HTTP status code indicates a successful request?

A. 200

B. 300

C. 400

D. 500

Hint

Identify the protocol layer and the intended request, response or channel semantics.

Answer A: 200

WEB04 explicitly maps 200 to success, 400 to a malformed request, and 500 to unexpected server failure. A 3xx code belongs to redirection rather than ordinary successful representation delivery. Therefore 200 is the listed status indicating a successful request. Other 2xx successes exist, but they are not among these options.

Why each choice is right or wrong

A - Correct: The note explicitly identifies 200 as a successful request status.

B - Incorrect: A 3xx code represents redirection behavior rather than the listed ordinary success status.

C - Incorrect: 400 indicates a malformed request, not successful processing.

D - Incorrect: 500 indicates an unexpected server failure, not success.

Primary note proof

Study-note section WEB04

> 200 indicates success, 201 creation, 204 success without content, 301 permanent redirection, 400 malformed request, 401 missing/invalid authentication, 403 refusal, 404 unavailable/not found, and 500 an unexpected server failure.

Study-note section WEB-S10

> The first digit of an HTTP status code identifies its class: 2xx means successful handling, 3xx means redirection or further action, 4xx indicates a client-error condition, and 5xx indicates a server-error condition.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 92 | lines 24-27

```
const http = require('http');
const port = 8000;
const server = http.createServer((req, res) => {
res.statusCode = 200;
```

Web Programming module | PDF page 93 | lines 2-4

```
res.setHeader('Content-Type', 'text/plain');
res.end('Hello World');
});
```

Question sources

Computer Science MCQ practice collection · Question 115

Question 226 | AM0116

Which HTTP status code indicates that the requested resource is not found on the server?

A. 200

B. 300

C. 400

D. 404

Hint

Identify the protocol layer and the intended request, response or channel semantics.

Answer D: 404

WEB04 explicitly identifies 404 as unavailable or not found. That directly matches the requested missing-resource case. The alternatives represent success, redirection, or a malformed request rather than the not-found status. A not-found response describes what is reported to the client; it does not require explaining every possible server-side reason for the absence.

Why each choice is right or wrong

A - Incorrect: 200 reports success rather than the missing-resource condition in the stem.

B - Incorrect: 300 is a redirection-class code, not the note’s not-found status.

C - Incorrect: 400 concerns a malformed request rather than the unavailable resource identified here.

D - Correct: 404 is explicitly mapped to unavailable or not found in WEB04.

Primary note proof

Study-note section WEB04

> 200 indicates success, 201 creation, 204 success without content, 301 permanent redirection, 400 malformed request, 401 missing/invalid authentication, 403 refusal, 404 unavailable/not found, and 500 an unexpected server failure.

Study-note section WEB-S10

> The first digit of an HTTP status code identifies its class: 2xx means successful handling, 3xx means redirection or further action, 4xx indicates a client-error condition, and 5xx indicates a server-error condition.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 92 | lines 24-27

```
const http = require('http');
const port = 8000;
const server = http.createServer((req, res) => {
res.statusCode = 200;
```

Question sources

Computer Science MCQ practice collection · Question 116

Question 227 | AM0117

Which situations demonstrate concurrency when their requests make overlapping progress? Here simultaneously means overlapping progress, not necessarily execution at the same instant. Select all that apply.

A. The ability of the server to handle multiple clients simultaneously

B. The ability of the client to handle multiple servers simultaneously

C. The ability of the server to handle multiple requests from a single client

D. The ability of the client to handle multiple requests to a single server

Hint

Identify the execution side and communication pattern, keeping runtime, transport, data format and callback roles distinct.

Answer A, B, C, D: The ability of the server to handle multiple clients simultaneously; The ability of the client to handle multiple servers simultaneously; The ability of the server to handle multiple requests from a single client; The ability of the client to handle multiple requests to a single server

Concurrency means overlapping progress, whereas parallelism requires execution at the same instant. A server can overlap work for several clients or several requests from one client. A client can likewise overlap interactions with several servers or multiple requests to one server. The question explicitly supplies overlap for each situation, making every listed arrangement an example of concurrency without asserting that all work physically runs in parallel.

Why each choice is right or wrong

A - Correct: Overlapping server work for several clients is concurrent.

B - Correct: Overlapping client interactions with several servers are concurrent.

C - Correct: Several overlapping requests from one client can create server concurrency.

D - Correct: A client can overlap multiple requests to the same server.

Primary note proof

Study-note section WEB36

> Concurrency means overlapping progress; parallelism means execution at the same instant.

Study-note section WEB36

> Multiple clients, or one client with overlapping requests, can both create concurrency.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 92 | lines 6-14

> b. Node.js
> Node is an open source, cross platform runtime environment that allows developers to create server-side tools and applications in JavaScript. As an asynchronous event-driven JavaScript runtime, Node.js is designed to build scalable network applications.
> Benefits of using Node
> 1. Performance
> 2. Uses plain old JavaScript
> 3. Thousands of reusable packages
> 4. Portable

Question sources

Computer Science MCQ practice collection · Question 117

Question 228 | AM0118

What is a race condition in the context of concurrency?

A. A condition where two or more clients compete to establish a connection with the server

B. A condition where two or more servers compete to respond to a client request

C. A condition where multiple threads or processes access shared resources in an unpredictable manner

D. A condition where multiple clients send duplicate requests to the server

Hint

Identify the shared-state invariant and the operations that must be coordinated.

Answer C: Shared-resource correctness depends on execution interleaving.

WEB37 describes two requests reading stock one, both accepting a sale, and both writing zero. The final correctness depends on their interleaving, which is the race-condition mechanism captured most closely by C's unpredictable shared-resource access. Competing connections, multiple responders, or duplicate requests are not themselves sufficient; they become races only when shared-state correctness depends on timing.

Why each choice is right or wrong

A - Incorrect: Competition to establish a connection is not by itself a shared-state correctness failure caused by interleaving.

B - Incorrect: Several servers responding does not alone establish a race on shared mutable state.

C - Correct: This is the closest option: shared-state access can make correctness depend on the execution interleaving.

D - Incorrect: Duplicate requests can cause other problems, but duplication alone is not the defining race-condition mechanism.

Primary note proof

Study-note section WEB37

> Suppose two requests read a stock count1, both decide it is available and both write0: two sales consumed one item.

Study-note section WEB37

> Correctness depends on interleaving, even if each callback has only a short synchronous body.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 92 | lines 6-14

> b. Node.js
> Node is an open source, cross platform runtime environment that allows developers to create server-side tools and applications in JavaScript. As an asynchronous event-driven JavaScript runtime, Node.js is designed to build scalable network applications.
> Benefits of using Node
> 1. Performance
> 2. Uses plain old JavaScript
> 3. Thousands of reusable packages
> 4. Portable

Question sources

Computer Science MCQ practice collection · Question 118

Question 229 | AM0119

Which technique directly protects one shared-state critical section with an exclusive lock that does not rely on busy waiting? Choose the exclusive-lock primitive, rather than a bounded-access counter or a messaging design.

A. Mutex locks

B. Spinlocks

C. Semaphores

D. Message queues

Hint

Identify the shared-state invariant and the operations that must be coordinated.

Answer A: Mutex locks

A mutex directly protects a critical section by allowing only one holder at a time. The question distinguishes that exclusive-lock abstraction from spinlock busy waiting, semaphore bounded-access counting and message-queue designs. A semaphore can also enforce exclusion when configured suitably, but it is not the specific exclusive-lock primitive requested. Choosing a primitive does not by itself guarantee application correctness: every conflicting update must use the protected critical section.

Why each choice is right or wrong

A - Correct: A mutex is the requested exclusive-lock primitive.

B - Incorrect: A spinlock relies on busy waiting, which the stem excludes.

C - Incorrect: A semaphore is the bounded-access counter abstraction excluded by the requested category.

D - Incorrect: A message queue is a messaging design rather than the requested lock primitive.

Primary note proof

Study-note section WEB37

> A mutex protects one critical section; semaphores can coordinate bounded access; spinlocks busy-wait and are unsuitable for blocking a browser/event-loop thread.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 92 | lines 6-14

> b. Node.js
> Node is an open source, cross platform runtime environment that allows developers to create server-side tools and applications in JavaScript. As an asynchronous event-driven JavaScript runtime, Node.js is designed to build scalable network applications.
> Benefits of using Node
> 1. Performance

2. Uses plain old JavaScript
3. Thousands of reusable packages
4. Portable

Question sources

Computer Science MCQ practice collection · Question 119

Question 230 | AM0120

In an asynchronous browser request, what is the response callback's role?

A. A function invoked by the browser runtime or API when the response becomes available

B. A function that is called by the client to request a specific operation from the server

C. A function that is called by the server to handle concurrent client requests

D. A function that is called by the client to synchronize with the server

Hint

Identify the execution side and communication pattern, keeping runtime, transport, data format and callback roles distinct.

Answer A: A function invoked by the browser runtime or API when the response becomes available

The callback is registered for later invocation by the browser runtime or API when the response becomes available. The remote server sends response data; it does not directly execute the browser function. A function that starts a request or a server request-handler function has a different role in the described interaction. The answer states both the owning execution environment and the event that causes invocation.

Why each choice is right or wrong

A - Correct: This states who invokes the browser response callback and when.

B - Incorrect: Starting a request is not the response callback's role.

C - Incorrect: A server request handler is a different callback in a different environment.

D - Incorrect: A callback need not perform client/server synchronization.

Primary note proof

Study-note section WEB34

A callback is a function invoked later by the runtime/API.

Study-note section WEB34

The browser invokes its response handler when the response is available; the remote server does not directly execute browser code.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 90 | lines 2-10

> 6.4 Handling Response from Server
> Before making a request to the server we have to write a callback function which will handle the response. But Because Ajax calls are asynchronous, we can't be sure when the response will come, so we must write code to wait for the response and handle it when it arrives. That is what the callback function is used for
> At this stage, we need to tell the XMLHttpRequest object which JavaScript function will handle the response, by setting the onreadystatechange property of the object and naming it after the function to call when the request changes state, like this:
> httpRequest.onreadystatechange = nameOfTheFunction;

Question sources

Computer Science MCQ practice collection · Question 120

Question 231 | AM0121

Which application-level protocol provides a persistent bidirectional message channel after its handshake?

A. HTTP

B. FTP

C. TCP/IP

D. WebSocket

Hint

Identify the execution side and communication pattern, keeping runtime, transport, data format and callback roles distinct.

Answer D: WebSocket

WebSocket establishes a persistent bidirectional channel on which either endpoint can exchange messages after the handshake. HTTP requests can also be issued asynchronously, but asynchronous programming alone does not supply this specific channel model. FTP has a different transfer role, and TCP/IP names lower-level networking foundations rather than the requested application protocol. The revised interaction requirement therefore distinguishes WebSocket without claiming it is the only way to avoid blocking a client.

Why each choice is right or wrong

A - Incorrect: Asynchronous HTTP requests do not by themselves define this persistent bidirectional message channel.

B - Incorrect: FTP is not the specified WebSocket-style application messaging protocol.

C - Incorrect: TCP/IP refers to lower-level networking rather than this application-level channel protocol.

D - Correct: WebSocket supplies the described persistent bidirectional channel.

Primary note proof

Study-note section WEB35

> WebSocket establishes a persistent bidirectional message channel after its handshake.

Study-note section WEB35

> Either HTTP-based AJAX or WebSockets can support nonblocking user interaction and carry JSON, so generic questions may be nonexclusive.

Study-note section WEB-S14

> HTTP defines web application requests, response status codes and representations.

Study-note section WEB-S14

> An HTTP exchange can use underlying TCP connections and IP addresses; naming that network stack does not identify the application-level method or status semantics.

Study-note section WEB-S14

> FTP is a file-transfer application protocol.

Study-note section WEB-S14

> SMTP transports electronic mail.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 89 | lines 20-31

> 6.3 Sending Request to PHP server
> XMLHttpRequest (XHR) is an API that can be used by JavaScript and other web browser scripting languages to transfer and manipulate XML data to and from a webserver using HTTP, establishing an independent connection channel between a webpage's Client-Side and Server-Side.
> In order to make an HTTP request to the server with JavaScript, you need an instance of an XMLHttpRequest Object. We make a request to the sever, by calling the open() and send() methods of the HTTP request object, like this:
> httpRequest.open('GET', 'http://www.example.org/some.file', true);
> httpRequest.send();
> open() takes three parameters, the first is the HTTP request method and the second is the URL. The optional third parameter sets whether the request is asynchronous.

Question sources

Computer Science MCQ practice collection · Question 121

Question 232 | AM0122

What is long polling in client-server communication?

A. A technique where the server continuously sends updates to the client

B. A technique where the client continuously sends requests to the server for updates

C. A technique where the server holds a request from the client until new data is available

D. A technique where the client holds a request from the server until new data is available

Hint

Identify the execution side and communication pattern, keeping runtime, transport, data format and callback roles distinct.

Answer C: The server holds a client request until data is available or timeout occurs.

WEB35 defines long polling as holding a client request until an event or timeout, returning a response, and then reconnecting from the client. C captures that defining held-request step. It is not continuous unsolicited streaming on a finished response, repeated short polling without a held request, or a reversed arrangement in which a client holds a server-originated request.

Why each choice is right or wrong

A - Incorrect: Continuous unsolicited server updates describe streaming-like behavior rather than the held-request long-polling cycle.

B - Incorrect: Repeated immediate polling requests describe short polling rather than holding each request until an event or timeout.

C - Correct: Holding the client's request until new data or timeout is the defining long-polling behavior.

D - Incorrect: This reverses the roles; the server holds a request initiated by the client.

Primary note proof

Study-note section WEB35

> Short polling repeatedly requests updates.

Study-note section WEB35

> Long polling holds one client request until an event or timeout, returns a response, then the client reconnects; it is not continuous unsolicited streaming on that same finished response.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 89 | lines 25-31

> In order to make an HTTP request to the server with JavaScript, you need an instance of an XMLHttpRequest Object. We make a request to the sever, by calling the open() and send() methods of the HTTP request object, like this:
> httpRequest.open('GET', 'http://www.example.org/some.file', true);

httpRequest.send();
open() takes three parameters, the first is the HTTP request method and the second is the URL. The optional third parameter sets whether the request is asynchronous.

Web Programming module | PDF page 90 | lines 2-6

6.4 Handling Response from Server
Before making a request to the server we have to write a callback function which will handle the response. But Because Ajax calls are asynchronous, we can't be sure when the response will come, so we must write code to wait for the response and handle it when it arrives. That is what the callback function is used for

Question sources

Computer Science MCQ practice collection · Question 122

Question 233 | AM0124

Which programming language is commonly used for client-side scripting in web programming?

A. HTML

B. CSS

C. JavaScript

D. PHP

Hint

Identify the role requested and compare it with the definitions and constraints in the cited passages.

Answer C: JavaScript

The JavaScript chapter identifies the browser behavior/scripting layer as JavaScript. HTML provides structure, CSS appearance and PHP server-side output. Evidence: PDF p. 44, PDF p. 60.

Why each choice is right or wrong

A - Incorrect: Markup rather than scripting.

B - Incorrect: Stylesheet rather than scripting.

C - Correct: Exact client scripting language.

D - Incorrect: Explicit server-side language.

Primary note proof

Study-note section WEB01

HTML supplies structure/meaning; CSS controls presentation; JavaScript supplies programmable interactivity.

Study-note section WEB01

PHP, Python, JSP/Java and ASP.NET applications generate server responses and access databases; C# is commonly used with ASP.NET.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 44 | lines 9-15

JavaScript is a scripting or programming language that allows us to implement complex features on web pages. JavaScript will enable us to display timely content updates, interactive maps, 2D/3D animated graphics etc. JavaScript is one of the three layers of web technologies which lets to add functionality to a web page. The three layers of web technologies are stacked together nicely, HTML will let's structure the webpage, CSS deals with the presentation of the web page and JavaScript the functionality.'

Web Programming module | PDF page 60 | lines 4-10

PHP is a server-side scripting language, which can be embedded in HTML or used as a standalone binary (although the former use is much more common). PHP stands for Hypertext Preprocessor. The product was originally named Personal Home Page Tools, and many people still think that is what the acronym stands for. But as it expanded in scope, a new and more appropriate name was selected by community vote. PHP is the language that you use to make the server generate dynamic output-output that is potentially different each time a browser re-quests a page.

Question sources

Computer Science MCQ practice collection · Question 124

Question 234 | AM0125

Which protocol is commonly used for secure communication between a client and server?

A. HTTP

B. FTP

C. TCP/IP

D. HTTPS

Hint

Identify the protocol layer and the intended request, response or channel semantics.

Answer D: HTTPS

WEB05 defines HTTPS as HTTP over TLS with channel confidentiality, integrity, and certificate-based server authentication. It is the offered protocol for a protected web client/server exchange. Plain HTTP and the TCP/IP networking family do not supply those protections by themselves, and FTP is not the secure HTTP protocol being described. These protections do not replace application validation or authorization.

Why each choice is right or wrong

A - Incorrect: Plain HTTP lacks the TLS protections that distinguish secure web communication in WEB05.

B - Incorrect: FTP is not the HTTPS protocol identified for TLS-protected web exchanges.

C - Incorrect: TCP/IP supplies underlying networking rather than the specific protected HTTP channel requested.

D - Correct: HTTPS adds TLS confidentiality, integrity, and checked server identity to HTTP communication.

Primary note proof

Study-note section WEB05

> HTTPS uses HTTP over TLS, protecting channel confidentiality/integrity and authenticating the server under certificate checks.

Study-note section WEB-S14

> HTTP defines web application requests, response status codes and representations.

Study-note section WEB-S14

> An HTTP exchange can use underlying TCP connections and IP addresses; naming that network stack does not identify the application-level method or status semantics.

Study-note section WEB-S14

> FTP is a file-transfer application protocol.

Study-note section WEB-S14

> SMTP transports electronic mail.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 58 | lines 4-8

> window.location.href returns the href (URL) of the current page
> window.location.hostname returns the domain name of the web host
> window.location.pathname returns the path and filename of the current page
> window.location.protocol returns the web protocol used (http: or https:)
> window.location.assign() loads a new document

Web Programming module | PDF page 8 | lines 29-34

• The World Wide Web (WWW) is most often called the Web.
• The Web is a network of computers all over the world.
• All the computers in the Web can communicate with each other.
• All the computers use a communication standard called HTTP.
How does the WWW work?
• Web information is stored in documents called Web pages.

Question sources

Computer Science MCQ practice collection · Question 125

Question 235 | AM0126

What is a load balancer in the context of client-server systems?

A. A device that balances the load between multiple clients

B. A device that balances the load between multiple servers

C. A device that balances the load between the client and server

D. A device that balances the load between different network protocols

Hint

Identify the execution side and communication pattern, keeping runtime, transport, data format and callback roles distinct.

Answer B: Distribute work across multiple server instances.

WEB36 says workers or processes and a load balancer distribute work across server instances. That directly supports B. The balancing target is the pool of servers handling incoming work, rather than clients, the two communication roles, or protocol types. The note also warns that distributing requests does not automatically coordinate shared data or session state.

Why each choice is right or wrong

A - Incorrect: The described load-balancing role distributes server work rather than balancing computational load among clients.

B - Correct: A load balancer distributes incoming work across multiple server instances.

C - Incorrect: It does not divide one application’s work equally between the abstract client and server roles.

D - Incorrect: Balancing among network protocol types is not the server-instance distribution role defined in WEB36.

Primary note proof

Study-note section WEB36

Workers/processes and a load balancer distribute work across server instances; they do not automatically coordinate shared data or session state.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 9 | lines 13-21

> Web hosting is the place where all the files of your website live. Web hosting is a service that allows organizations and individuals to post a website or a web page onto the Internet. A web host, or web hosting service provider, is a business that provides the technologies and services needed for the website or webpage to be viewed in the Internet. Websites are hosted, or stored, on special computers called servers. When Internet users want to view your website, all they need to do is type your website address or domain (the domain name for the site has to be registered) into their browser. Their computer will then connect to your server and your webpages will be delivered to them through the browser.

Web Programming module | PDF page 92 | lines 6-14

> b. Node.js
> Node is an open source, cross platform runtime environment that allows developers to create server-side tools and applications in JavaScript. As an asynchronous event-driven JavaScript runtime, Node.js is designed to build scalable network applications.
> Benefits of using Node
> 1. Performance
> 2. Uses plain old JavaScript
> 3. Thousands of reusable packages
> 4. Portable

Question sources

Computer Science MCQ practice collection · Question 126

Question 236 | AM0127

Which browser-stored mechanism normally carries an opaque session identifier automatically on matching requests, without adding that token to each URL?

A. Cookies

B. HTML forms

C. URL parameters

D. Server-side caching

Hint

Follow the identifier and server-side state through the stated lifecycle or access check; distinguish client-controlled claims from server decisions.

Answer A: Cookies

A cookie stores browser-side name/value data and is automatically attached to requests that match its scope and security rules. It can carry the opaque identifier used to find server-side session state. Forms or URL parameters can explicitly transmit identifiers, but do not provide the automatic matching-request behavior specified. Server-side caching stores server data rather than supplying this browser identifier carrier.

Why each choice is right or wrong

A - Correct: A matching cookie is automatically attached to requests and can carry the opaque session identifier.

B - Incorrect: A form submits explicit values when submitted, rather than automatically attaching stored data to all matching requests.

C - Incorrect: A URL parameter must be included in a URL; the scenario explicitly keeps the token out of URLs.

D - Incorrect: Server caching concerns retained server-side data, not the browser mechanism that automatically carries the identifier.

Primary note proof

Study-note section WEB28

> Cookies are browser-held name/value data automatically attached to matching requests subject to domain, path, expiry, Secure and SameSite rules.

Study-note section WEB29

> Normally the browser holds an opaque session identifier while data resides in server-controlled storage.

Study-note section WEB29

> Protect session IDs, regenerate after login, expire appropriately and avoid putting sensitive tokens in URLs.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 58 | lines 14-23

> Cookies are data, stored in small text files, on your computer.
> When a web server has sent a web page to a browser, the connection is shut down,
> and the server forgets everything about the user. Cookies were invented to solve the
> problem "how to remember information about the user":
> When a user visits a web page, his/her name can be stored in a cookie.
> Next time the user visits the page, the cookie "remembers" his/her name.
> Cookies are saved in name-value pairs like:
> When a browser requests a web page from a server, cookies belonging to the page
> are added to the request. This way the server gets the necessary data to "remember"
> information about users.

Web Programming module | PDF page 77 | lines 17-21

> What is a Cookie?
> A cookie is often used to identify a user. A cookie is a small file that the server embeds on the user's computer. Each time the same computer requests a page with a browser, it will send the cookie too. With PHP, you can both create and retrieve cookie values.

Web Programming module | PDF page 76 | lines 2-5

> in one application. A PHP session allows you to store user information on the server for later use (i.e., username, shopping items, etc.). However, session information is temporary and will be deleted after the user has left the website. If you need a permanent storage you may want to store the data in a database.

Question sources

Computer Science MCQ practice collection · Question 127

Question 237 | AM0128

What is AJAX in web programming?

A. A programming language for server-side scripting

B. A database management system

C. A technique for asynchronous client-server communication

D. A web server software

Hint

Identify the execution side and communication pattern, keeping runtime, transport, data format and callback roles distinct.

Answer C: A technique for asynchronous client-server communication

AJAX is a web-development technique with asynchronous server communication and page updates without refresh. It combines technologies instead of being a server language, database system or server software. Evidence: PDF p. 89.

Why each choice is right or wrong

A - Incorrect: Not the module classification.

B - Incorrect: Not the module classification.

C - Correct: Exact asynchronous communication technique.

D - Incorrect: Not the module classification.

Primary note proof

Study-note section WEB34

> AJAX means Asynchronous JavaScript and XML, but responses can be JSON, text, HTML or XML.

Study-note section WEB34

It is a technique, not a language, standalone framework or mandatory XML protocol.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 89 | lines 4-13

AJAX is a web development technique for creating interactive web applications.
AJAX stands for Asynchronous JavaScript and XML. It can send and receive information in various formats, including JSON, XML, HTML, and text files. AJAX is a new technique for creating better, faster, and more interactive web applications with the help of XML, HTML, CSS, and Java Script. AJAX's most appealing characteristic is its "asynchronous" nature, which means it can communicate with the server, exchange data, and update the page without having to refresh the page.
The two major features of AJAX allow you to do the following:
- Make requests to the server without reloading the page
- Receive and work with data from the server

Question sources

Computer Science MCQ practice collection · Question 128

Question 238 | AM0129

What is a RESTful API?

A. An API that supports real-time communication between client and server

B. An API that uses the REST architectural style for client-server communication

C. An API that only supports server-to-server communication

D. An API that is used for database management

Hint

Identify the protocol layer and the intended request, response or channel semantics.

Answer B: An API following the REST architectural style.

WEB05 describes REST through client/server separation, stateless requests, cacheability, and a uniform resource interface. B is the definition matching those architectural constraints. Real-time delivery is not required, server-to-server-only use is not a REST limitation, and database management is only a possible implementation domain. Returning JSON alone also does not establish REST.

Why each choice is right or wrong

A - Incorrect: Real-time communication is not the defining constraint or requirement of a RESTful API.

B - Correct: Following REST architectural constraints is what makes an API RESTful.

C - Incorrect: REST is not restricted to server-to-server communication; browsers can access resource interfaces too.

D - Incorrect: Database management is one possible domain, not the architectural definition of REST.

Primary note proof

Study-note section WEB05

> A RESTful API follows constraints such as client/server separation, stateless requests, cacheability and a uniform resource interface.

Study-note section WEB05

> Resources have identifiers and representations; JSON is common but not required.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 44 | lines 21-28

> We can use JavaScript in coordination with Application programming interfaces (APIs). APIs provide us extra information. They are ready made code building blocks that are used to simplify programming in JavaScript. There are two types of APIs
> - Third party API → are not built into the browser. We have to grab the code from the web. Examples: Twitter API, Google maps API etc.
> - Browser API → are built into the browser. Examples DOM (Document object model) which is covered later in this chapter, Geolocation API, Canvas and WebGL, Audio and Video elements

Web Programming module | PDF page 89 | lines 20-24

> 6.3 Sending Request to PHP server
> XMLHttpRequest (XHR) is an API that can be used by JavaScript and other web browser scripting languages to transfer and manipulate XML data to and from a webserver using HTTP, establishing an independent connection channel between a webpage's Client-Side and Server-Side.

Question sources

Computer Science MCQ practice collection · Question 129

Question 239 | AM0130

What is server-side caching in client-server systems?

A. A technique to store client-side data on the server

B. A technique to store server-side data on the client

C. A technique to store frequently accessed server-side data in memory for faster retrieval

D. A technique to store client and server data in a separate cache server

Hint

Distinguish the purpose of each development or performance technique from its possible side effects.

Answer C: Retain frequently accessed server-side results for faster reuse.

WEB39 describes caching as reusing a representation or result and explicitly gives server caching of rendered pages or expensive query results. C matches that faster-retrieval purpose. The cache need not be a separate server, and merely transferring client data to a server or server data to a client is not the defining reuse mechanism. Validity, privacy, and cache keys still matter.

Why each choice is right or wrong

A - Incorrect: Storing client-originated data on a server does not by itself establish result reuse or caching.

B - Incorrect: Placing server data on a client describes client-side storage rather than server-side caching.

C - Correct: Retaining frequently reused server-side results avoids repeated work and accelerates later retrieval.

D - Incorrect: A separate cache server is optional; the defining property is reusable results, not a mandatory deployment topology.

Primary note proof

Study-note section WEB39

> Caching reuses a representation/result and requires validity/invalidation rules.

Study-note section WEB39

> Server caching can hold rendered pages or expensive query results; never share private user content under an unsafe common key.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 45 | lines 28-31

> As a rule, only the simplest scripts are put into HTML. More complex ones reside in separate files.
> The benefit of a separate file is that the browser will download it and store it in its cache.

Web Programming module | PDF page 76 | lines 2-5

> in one application. A PHP session allows you to store user information on the server for later use (i.e., username, shopping items, etc.). However, session information is temporary and will be deleted after the user has left the website. If you need a permanent storage you may want to store the data in a database.

Question sources

Computer Science MCQ practice collection · Question 130

Question 240 | CS0032

Which form METHOD value normally places submitted name/value pairs in the request body rather than the URL query?

A. GET

B. INPUT

C. ACTION

D. POST

Hint

Separate the control role, displayed content, submitted value and form destination.

Answer D: POST

For ordinary HTML forms, GET usually puts successful name/value pairs in the URL query, while POST places form data in the request body. METHOD does not specify an element-at-a-time parser; parsing depends on encoding and the receiving implementation. INPUT is a control element name and ACTION is a form attribute, so neither is a method value. The corrected question tests the supported form-submission distinction rather than the unsupported parsing premise.

Why each choice is right or wrong

A - Incorrect: GET normally places the pairs in the URL query.

B - Incorrect: INPUT names a control element rather than a METHOD value.

C - Incorrect: ACTION identifies a separate form attribute rather than a METHOD value.

D - Correct: POST normally puts submitted form data in the request body.

Primary note proof

Study-note section WEB04

> GET forms usually put name/value pairs in the URL query; POST forms put them in the body.

Study-note section WEB09

> A form’s action identifies its processing URL, method its submission method, and enctype its encoding.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 21 | lines 23-31

Form attributes:
- action → Backend script ready to process the data collected
- method → method used to upload Data. The most frequently used
- target → Specify the target window or frame where the result of the script will be displayed. It takes values like _blank, _self, _parent etc.
- enctype → tells how the browser encodes data. Possible values
1. application/x-www-form-urlencoded → most common and used from simple scenarios
2. mutlipart/form-data → used to upload binary data

Web Programming module | PDF page 73 | lines 11-16

• $_GET[]: It is used the retrieve the information from the form control through the parameters sent in the URL. It takes the attribute given in the url as the parameter.
• $_POST[]: It is used the retrieve the information from the form control through the HTTP POST method. IT takes name attribute of corresponding form control as the parameter.

Question sources

Computer Science Exit Exam practice collection · Question 32

Question 241 | CS0033

Which claim is false about HTML as an open-standard text markup format?

A. It supports interoperability, though feature support varies across platforms and browsers

B. Its text can be transmitted over a network as a web representation

C. Its source represents document structure using text markup rather than requiring a fixed small file size

D. Because it is proprietary technology

Hint

Use the element or attribute meaning and document structure, rather than appearance or a similar-looking name.

Answer D: Because it is proprietary technology

HTML supplies document structure in a text markup representation within the open Web standards setting. That supports interoperability but does not guarantee identical feature support in every browser, a tiny document size or a fixed transfer speed. The alternatives remove those universal promises. Calling HTML proprietary contradicts the stated open-standard setting, while the other choices now make qualified claims about its representation and delivery.

Why each choice is right or wrong

A - Incorrect: Qualified interoperability is consistent with differing feature support.

B - Incorrect: A web representation can transmit HTML text without promising a fixed speed.

C - Incorrect: Text markup expresses structure without guaranteeing a small size.

D - Correct: The proprietary characterization conflicts with the open-standard setting.

Primary note proof

Study-note section WEB02

> Open standards do not guarantee identical support for every feature in every browser.

Study-note section WEB06

> HTML means HyperText Markup Language.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 10 | lines 17-26

> HTML has been in use by the World-Wide Web (WWW) global information initiative since 1990. It is a simple markup language used to create hypertext documents that are platform independent. HTML markup can represent hypertext news, mail, documentations, and hyper media; menus of options; database query results;
> This document covers html versions ranging from 2 up to 5
> HTML is composed of several tags. HTML Document:-
> - A text document containing markup tags
> - The tags tell the browser how to display the document
> - Should have an .htm or .html file name extension
> - Can be created using a simple text editor

Question sources

Computer Science Exit Exam practice collection · Question 33

Question 242 | CS0034

What is the output of the following JavaScript fragment? for (n = 1; n < 7; n++) { if (n % 5 == 0) { document.write(n + " is multiple of 5"); } }

A. 5 is multiple of 5

B. 1 2 3 4 5 is multiple of 5 6

C. 5 is multiple of 5 6 7

D. 1 2 3 4 5 6

Hint

Identify the role requested and compare it with the definitions and constraints in the cited passages.

Answer A: 5 is multiple of 5

The loop starts at 1 and visits integers 1 through 6 because n<7 excludes 7. The p.49 arithmetic table shows % as remainder, including 8%3=2. Among these values only 5 has remainder zero on division by 5, so the conditional writes once: 5 is multiple of 5. This uses the conventional n++ loop step; the module shows for begin/condition/step but does not separately define postfix value semantics, which are immaterial because the step value is discarded. Evidence: PDF p. 49, PDF p. 49, PDF p. 50, PDF p. 47.

Why each choice is right or wrong

A - Correct: Exactly the single matching value 5.

B - Incorrect: Prints values outside the if branch; no unconditional write exists.

C - Incorrect: Adds 6 and 7 even though 6 fails and 7 is excluded.

D - Incorrect: Ignores the conditional and omits the literal message.

Primary note proof

Study-note section WEB19

> for(initialization;test;update) initializes once, checks before each iteration, then updates after each body.

Study-note section WEB-S13

> For nonnegative integers n and positive d, n % d gives the remainder after division; zero tests divisibility.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 49 | lines 2-5

> 4.6 Arithmetic and Logical Operators in JavaScript
> Arithmetic operators are used to perform mathematical operations between numeric operands. We can perform different operations on numbers, like addition, subtraction multiplication. Here is the list of arithmetic operators we can use on numbers

Web Programming module | PDF page 49 | lines 9-14

> 4.7 Control Structures (Conditional and Looping Statements)
> The “if” statement:
> The if(...) statement evaluates a condition in parentheses and, if the result is true, executes a block of code.
> let age = 20;
> if (age > 18) alert('You are right!');

Web Programming module | PDF page 50 | lines 30-33

> - For loop → syntax
> for (begin; condition; step) {

```
// ... loop body ...
}
```

Web Programming module | PDF page 47 | lines 3-9

3. The write() method
- The write() method writes HTML expressions or JavaScript code to a document.
- The write() method is mostly used for testing: If it is used after an HTML document is fully loaded, it will delete all existing HTML.
Usage:
document.write(expr)

Question sources

Computer Science Exit Exam practice collection · Question 34

Question 243 | CS0035

In an ordinary browser page, which statements about document.write("Hello World") are true? Classify properties and values inclusively: a method is also a function-valued property. Select all that apply.

A. write is a property

B. write is a method

C. document is a property

D. write is an object

Hint

Track the value and type at each operation, applying the stated conversion, indexing or mathematical rule.

Answer A, B, C, D: write is a property; write is a method; document is a property; write is an object

document.write is a method and also a function-valued property of document. In a normal browser page, document is exposed as a property of window. Functions are objects in JavaScript, so the write function value is also an object. These descriptions are compatible views of the same expression rather than mutually exclusive categories. All four statements are therefore true under the explicit inclusive-classification convention.

Why each choice is right or wrong

A - Correct: write is a function-valued property of document.

B - Correct: Calling that function through document is a method invocation.

C - Correct: document is the browsing context’s document property.

D - Correct: The write function value is an object because JavaScript functions are objects.

Primary note proof

Study-note section WEB22

> In a normal browser page, window exposes the browsing context and document is its document property.

Study-note section WEB22

> document.write is a method/function property; writing after document load can replace the document.

Study-note section WEB16

> JavaScript primitives are undefined, null, Boolean, Number, BigInt, String and Symbol; objects include arrays, functions and dates.

Module passages - related reading

These source passages provide context; the primary note proof is identified separately above.

Web Programming module | PDF page 47 | lines 3-9

> 3. The write() method
> - The write() method writes HTML expressions or JavaScript code to a document.
> - The write() method is mostly used for testing: If it is used after an HTML document is fully loaded, it will delete all existing HTML.
> Usage:
> document.write(expr)

Web Programming module | PDF page 56 | lines 17-25

> All global JavaScript objects, functions, and variables automatically become members of the window object.
> Global variables are properties of the window object
> Global functions are methods of the window object.
> Even the document object (of the HTML DOM) is a property of the window object:
> window.document.getElementById("header");
> is the same as:
> document.getElementById("header");

Question sources

Computer Science Exit Exam practice collection · Question 35

Question 244 | NS0284

Consider
nav ul {
list-style-type: none;
margin: 0;
padding: 0;
}
What problem does this solve when creating a navigation bar?

A. Removes bullet points and default spacing, allowing custom layout

B. Aligns the navbar to the right of the page

C. Adds hover effects to list items

D. Converts the list into a dropdown menu

Hint

Use the element or attribute meaning and document structure, rather than appearance or a similar-looking name.

Answer A: Remove list bullets and default margin/padding.

This rule resets navigation-list styling. list-style-type:none removes markers, and zero margin/padding removes default list spacing. None of those declarations specifies alignment, hover styling, or dropdown behavior. Thus A describes the actual effect, leaving layout and interaction to additional rules.

Why each choice is right or wrong

A - Correct: These declarations remove markers and default spacing so later layout rules can start from a clean list.

B - Incorrect: No text alignment, flex justification, or positioning rule aligns the navbar right.

C - Incorrect: No :hover selector or hover-specific declaration is present.

D - Incorrect: A dropdown needs additional layout and interaction rules, not just this reset.

Primary note proof

Study-note section WEB08

> Resetting nav ul with list-style-type:none; margin:0; padding:0 removes bullets and default spacing only; it does not itself arrange links horizontally or create a dropdown.

Question sources

Computer Science Exit Exam · 2018 · Question 1

Question 245 | NS0311

Which PHP superglobal is dedicated to URL query parameters, excluding configurable combined-source arrays?

A. $_REQUEST

B. $_POST

C. $_GET

D. isset()

Hint

Identify the data source or security responsibility precisely, and check whether a combined source or a different control could also qualify.

Answer C: $_GET

$_GET is the dedicated query-parameter source. $_REQUEST can also contain GET values depending on configuration, but it is a combined-source array and is explicitly excluded by this question. $_POST represents supported form POST data, while isset tests existence and non-null rather than acting as an input-data container. Removing placeholder brackets makes the array names clear without inventing a particular field name or request value.

Why each choice is right or wrong

A - Incorrect: This combines configured request sources rather than being dedicated to query parameters.

B - Incorrect: This is the supported form POST source.

C - Correct: This is the dedicated URL-query source.

D - Incorrect: This tests whether a variable or entry exists and is non-null.

Primary note proof

Study-note section WEB27

> $_GET contains query parameters; $_POST contains supported form POST data; $_FILES upload metadata; $_SERVER request/environment details; $_COOKIE cookie values; $_SESSION session data after startup.

Study-note section WEB27

> $_REQUEST may combine GET/POST/cookie data according to configuration; it is not a database interface and has ambiguous precedence, so prefer the intended source.

Study-note section WEB27

> isset tests existence and non-null, not truth or valid syntax.

Question sources

Computer Science Exit Exam · 2018 · Question 32

Question 246 | NS0332

_____is a service that allows organizations and individuals to post a website or a web page onto the Internet.

A. Web hosting

B. Internet service provider

C. Web client

D. Domain name registration

Hint

Identify the role requested and compare it with the definitions and constraints in the cited passages.

Answer A: Web hosting

WEB02 defines hosting as supplying the environment where a website is served. This is the service enabling an organization’s site or page to be made available online. An ISP supplies connectivity, domain registration reserves a name, and a web client requests resources. Those supporting roles are not the hosting service described.

Why each choice is right or wrong

A - Correct: Hosting supplies an environment in which the site is served to users.

B - Incorrect: An ISP provides connectivity rather than necessarily the environment serving the website.

C - Incorrect: A web client requests resources instead of providing the publishing environment.

D - Incorrect: Domain registration reserves a name rather than serving the site’s content.

Primary note proof

Study-note section WEB02

> Hosting supplies an environment where a site is served; domain registration reserves a name, and DNS maps names to network records.

Study-note section WEB02

> An ISP provides connectivity.

Question sources

Computer Science Exit Exam · 2018 · Question 59

Question 247 | NS0340

Which protocol is mostly used for communication between client and server in a web application?

A. FTP

B. SMTP

C. HTTP

D. SSH

Hint

Identify the protocol layer and the intended request, response or channel semantics.

Answer C: HTTP

WEB01 describes the Web as a resource system commonly using HTTP, and WEB03 details its request/response exchange. HTTPS adds TLS protection to HTTP but does not make one of the other offered protocols the ordinary web exchange. Among these choices, HTTP is the application protocol used to request and return web resources.

Why each choice is right or wrong

A - Incorrect: FTP is not the HTTP request/response web protocol described in the note.

B - Incorrect: SMTP is not the webpage request/response protocol developed in WEB03.

C - Correct: HTTP carries the web resource requests and responses described in the complete note.

D - Incorrect: SSH is not the ordinary webpage request/response protocol identified here.

Primary note proof

Study-note section WEB01

> The Internet connects networks; the Web is a resource system commonly using HTTP.

Study-note section WEB03

> An HTTP/1.1 request begins with method, request-target and version, followed by header fields, a blank line, and an optional body.

Study-note section WEB-S14

> HTTP defines web application requests, response status codes and representations.

Study-note section WEB-S14

> An HTTP exchange can use underlying TCP connections and IP addresses; naming that network stack does not identify the application-level method or status semantics.

Study-note section WEB-S14

> FTP is a file-transfer application protocol.

Study-note section WEB-S14

SMTP transports electronic mail.

Question sources

Computer Science Exit Exam · 2018 · Question 71

Question 248 | NS0342

What is the extension of JavaScript file?

A. .javaS

B. .JS

C. .java

D. CSS

Hint

Check exact language syntax, declaration rules and execution context before reasoning about the result.

Answer B: .js is the conventional JavaScript source extension.

WEB15 uses an external app.js script and explicitly calls it a .js file. B identifies that extension family despite its uppercase printed letters. Actual filename case must match the deployed resource where paths are case-sensitive; the conventional spelling is lowercase .js. The other choices name different or invented file extensions rather than JavaScript source.

Why each choice is right or wrong

A - Incorrect: The invented .javaS suffix is not the conventional .js extension specified by WEB15.

B - Correct: This identifies the JS extension; use conventional lowercase .js and preserve actual filename case in paths.

C - Incorrect: .java is not the .js source-file extension used for JavaScript in the note.

D - Incorrect: CSS identifies stylesheet source rather than the JavaScript file extension.

Primary note proof

Study-note section WEB15

> Use <script src="app.js"></script> for an external .js file; script content has no HTML closing-tag syntax inside its JavaScript source.

Study-note section WEB15

> JavaScript originated at Netscape; it is distinct from Java and supports sophisticated applications through prototype-based objects and first-class functions.

Question sources

Computer Science Exit Exam · 2018 · Question 73

Question 249 | NS0355

A web application has two protected endpoints. The profile endpoint checks a valid session identifier and its server-side user record on every request. The transfer endpoint grants access whenever the editable logged_in cookie equals 1 and ignores session validation. An unauthenticated attacker has no valid session and sets logged_in=1. Which result follows from these access checks?

A. The cookie edit can bypass the transfer endpoint, but does not grant access to the profile endpoint

B. The cookie edit grants access to both endpoints because both receive the same cookie

C. Neither endpoint can be bypassed unless the attacker first obtains a genuine session identifier

D. HTTPS alone prevents either endpoint from accepting a forged logged_in value

Hint

Follow the identifier and server-side state through the stated lifecycle or access check; distinguish client-controlled claims from server decisions.

Answer A: The cookie edit can bypass the transfer endpoint, but does not grant access to the profile endpoint

The two endpoints use different trust paths. The transfer endpoint trusts an attacker-controlled flag, so the forged value satisfies its stated access check without a valid session. The profile endpoint requires authenticated server-side state, which the attacker lacks, so the unrelated cookie does not grant access there. HTTPS protects transport rather than validating the truth of a client-generated login claim. The bypass therefore affects the transfer endpoint only.

Why each choice is right or wrong

A - Correct: Only the transfer endpoint relies solely on the forgeable flag; the profile endpoint still requires a valid session.

B - Incorrect: Receiving the same cookie does not make the endpoints apply the same authorization rule.

C - Incorrect: The transfer check requires no genuine session identifier, so stealing one is unnecessary for that bypass.

D - Incorrect: HTTPS does not prevent a client from submitting a false authorization flag.

Primary note proof

Study-note section WEB29

> A client cookie logged_in=1 is attacker-controlled.

Study-note section WEB29

> If the server trusts it alone, authorization can be bypassed.

Study-note section WEB29

If the server checks a valid session ID and its server-side user/role on every protected action, editing that unrelated flag does not grant rights.

Study-note section WEB29

HTTPS does not make client-generated claims trustworthy.

Question sources

Computer Science Exit Exam · 2018 · Question 93

Question 250 | NS0360

Why should form <input> elements include an associated <label> with the for attribute?

A. It enables offline form storage

B. It encrypts user data

C. It increases form submission speed

D. It improves accessibility: screen readers announce the label when the input is focused

Hint

Separate the control role, displayed content, submitted value and form destination.

Answer D: Provide an accessible label associated with the input.

WEB09 links a label's for to the control id, and WEB07 requires programmatic control labels. That association lets assistive technology identify the input and announce its label. It does not alter storage, encryption, or network submission speed. D states the accessibility purpose directly, rather than confusing it with unrelated browser or transport features.

Why each choice is right or wrong

A - Incorrect: Label association does not create offline storage for form values.

B - Incorrect: Labels do not encrypt data or replace HTTPS transport protection.

C - Incorrect: Associating a label does not accelerate form submission over the network.

D - Correct: The programmatic label identifies the focused input for screen readers and other assistive technology.

Primary note proof

Study-note section WEB09

> A label's for matches the control's id; name identifies its submitted field.

Study-note section WEB07

> Give controls programmatic labels, clear link text and keyboard access; visual styling alone does not establish accessibility.

Question sources

Computer Science Exit Exam · 2018 · Question 99

Question 251 | NS0795

What is the difference between GET and POST methods? When would you use each?

Hint

Identify the protocol layer and the intended request, response or channel semantics.

Answer: GET retrieves safely and usually places form values in the query; POST asks the target to process body content.

WEB04 recommends GET for reading representations rather than intentional state changes. POST suits submitted processing or actions such as enrollment with proper authorization and CSRF controls. Neither method encrypts data; use HTTPS for channel protection. POST body values remain visible to tools and subject to configured size limits rather than becoming secret or unlimited.

Primary note proof

Study-note section WEB04

> GET retrieves a representation with safe semantics; do not implement an intentional state-changing action as a GET link.

Study-note section WEB04

> POST asks the target to process supplied content.

Study-note section WEB04

> GET forms usually put name/value pairs in the URL query; POST forms put them in the body.

Study-note section WEB40

> For an enrollment action use POST with CSRF controls, server authorization, capacity checks and a transaction; show success only after commit.

Question sources

Web Programming review questions · Question 1

Question 252 | NS0796

Why is client-side validation alone not enough for security?

Hint

Separate event dispatch, handler registration and cancellation of the browser default action.

Answer: Clients can bypass or alter browser checks, so the server must validate and authorize again.

WEB27 requires server checks for required fields, type, length, and range, plus authentication and authorization before processing. Browser validation improves feedback but arbitrary clients can submit different requests. Bind SQL values and encode output for its context as well; encryption or merely connecting to a database does not replace these application controls.

Primary note proof

Study-note section WEB27

> Read input, check required fields/type/length/range, authenticate and authorize, then process.

Study-note section WEB27

> Bind SQL parameters to keep values separate from commands.

Study-note section WEB27

> Encode output for HTML/attribute/JS context; textContent handles plain browser text.

Study-note section WEB21

> Browser checks improve feedback; repeat validation and authorization on the server.

Question sources

Web Programming review questions · Question 2

Question 253 | NS0797

What is the DOM and why is it important for web development?

Hint

Track which node is selected or created, and distinguish changing content from attaching a node.

Answer: The DOM is the document's node hierarchy, enabling scripts to inspect and update page content and behavior.

WEB20 selects nodes, creates elements, and attaches them to that hierarchy. Creating a node does not itself insert it, and missing lookups must be guarded. textContent safely inserts untrusted plain text, whereas innerHTML reparses markup and can replace descendant state. The DOM connects document structure to interactive browser updates.

Primary note proof

Study-note section WEB20

> The DOM is a hierarchy of nodes representing the document.

Study-note section WEB20

> Creation alone does not insert it.

Study-note section WEB20

> innerHTML parses/replaces descendants, so += reparses/replaces the prior descendant content too and can destroy listeners/state.

Study-note section WEB20

> Use textContent for untrusted plain text.

Question sources

Web Programming review questions · Question 3

Question 254 | NS0798

A user closes their browser and reopens it. They are still logged in. How is this possible?

Hint

Follow the identifier and server-side state through the stated lifecycle or access check; distinguish client-controlled claims from server decisions.

Answer: A persistent remember/session token or browser restoration can preserve the login flow.

WEB28 says reopening while logged in may use persistent session or remember tokens or browser restoration. The browser can retain an identifier, but the server still has to accept and validate it against its authorization state. Local persistence alone is not proof of authenticated access, and the observation does not identify one unique storage mechanism.

Primary note proof

Study-note section WEB28

> Being logged in after reopening may use a persistent session/remember token or browser restoration; storage alone does not prove server acceptance.

Study-note section WEB29

> If the server checks a valid session ID and its server-side user/role on every protected action, editing that unrelated flag does not grant rights.

Question sources

Web Programming review questions · Question 4

Question 255 | NS0799

Why would a developer choose local storage over cookies?

Hint

Identify the role requested and compare it with the definitions and constraints in the cited passages.

Answer: localStorage persists origin data without automatically attaching it to every matching request.

WEB28 contrasts localStorage's persistent strings with cookies' automatic request transmission. It can avoid transmitting data needed only by the client. JavaScript can still send stored tokens explicitly, so localStorage is not inherently incapable of session designs. Script-access risks and persistence policies must be considered; neither mechanism is universally preferable for sensitive authentication data.

Primary note proof

Study-note section WEB28

> localStorage persists origin-specific string values across sessions until removed/cleared; sessionStorage is scoped to a page session/tab.

Study-note section WEB28

> Neither is automatically transmitted like matching cookies, but JavaScript can send stored data explicitly.

Study-note section WEB28

> Thus all four are client storage techniques, and localStorage can participate in token-based session designs, with script-access risks.

Question sources

Web Programming review questions · Question 5

Question 256 | NS0800

What does HTML stand for?

A. Hyper Text Markup Language

B. High Tech Modern Language

C. Hyper Transfer Markup Language

D. Home Tool Markup Language

Hint

Use the element or attribute meaning and document structure, rather than appearance or a similar-looking name.

Answer A: HyperText Markup Language

WEB06 directly expands HTML as HyperText Markup Language. The name identifies markup used for document structure and meaning rather than a general programming or transfer protocol. The other phrases substitute different words and are not the expansion in the note. This vocabulary answer does not depend on a browser version or an implementation choice.

Why each choice is right or wrong

A - Correct: Hyper Text Markup Language matches the note's expansion, with only spacing variation in HyperText.

B - Incorrect: High Tech Modern Language is not the expansion given in WEB06.

C - Incorrect: Transfer replaces the required word Text and gives the wrong expansion.

D - Incorrect: Home Tool Markup Language is not the HTML expansion in the note.

Primary note proof

Study-note section WEB06

> HTML means HyperText Markup Language.

Question sources

Web Programming review questions · Question 1

Question 257 | NS0801

Which HTML tag creates a hyperlink?

A. <link>

B. <href>

C. <a>

D. <url>

Hint

Identify which elements a rule targets and distinguish selector syntax from declaration syntax.

Answer C: <a> with an href destination.

WEB07 gives Read as the link pattern. The anchor element creates the user-facing hyperlink; href is its destination attribute, not a standalone tag. link is used for relationships such as external stylesheets, and url is not the anchor element. Thus C names the correct element among the supplied choices.

Why each choice is right or wrong

A - Incorrect: link is used for resource relationships such as external stylesheets rather than the shown user-facing anchor.

B - Incorrect: href is an attribute on an anchor, not the hyperlink element itself.

C - Correct: The anchor element with href creates the hyperlink described in WEB07.

D - Incorrect: url is not the supported HTML anchor tag.

Primary note proof

Study-note section WEB07

> Use Read for a link; href is the destination, not url/link.

Study-note section WEB11

> An external sheet uses <link rel="stylesheet" href="styles.css"> in head; an internal sheet uses style; an inline declaration uses an element’s style attribute.

Question sources

Web Programming review questions · Question 2

Question 258 | NS0802

What is the correct HTML tag for inserting a line break?

A. <break>

B. <lb>

C.

D. <newline>

Hint

Use the element or attribute meaning and document structure, rather than appearance or a similar-looking name.

Answer C:

 creates a line break, <p> defines a paragraph, and <hr> represents a thematic break. C is the defined break element; the other options invent element names not defined as HTML elements. A line break is an HTML structure operation rather than a requirement to insert a physical newline into the source file.

Why each choice is right or wrong

A - Incorrect: break is not the HTML line-break element defined in WEB06.

B - Incorrect: lb is not the supported line-break element spelling.

C - Correct: br is explicitly the HTML line-break element.

D - Incorrect: newline is not the HTML line-break element defined in the note.

Primary note proof

Study-note section WEB06

> <p> marks paragraphs;
 is a line break and <hr> a thematic break.

Question sources

Web Programming review questions · Question 3

Question 259 | NS0803

Which tag preserves whitespace and line breaks exactly as written?

A. <p>

B. <pre>

C. <code>

D.

Hint

Use the element or attribute meaning and document structure, rather than appearance or a similar-looking name.

Answer B: <pre>

WEB06 gives <pre> the whitespace-preservation role. It is therefore the appropriate element for text whose source spaces and line breaks should be retained. code marks code semantics but does not itself guarantee preformatted whitespace, while paragraph and emphasis elements have other meanings. Custom CSS can alter defaults, but the question concerns the native tag role.

Why each choice is right or wrong

A - Incorrect: A paragraph does not itself preserve all source spacing and line breaks.

B - Correct: pre is the element explicitly defined to preserve source whitespace.

C - Incorrect: code marks code semantics; preformatted whitespace preservation is a separate role.

D - Incorrect: em expresses stress emphasis rather than preformatted source layout.

Primary note proof

Study-note section WEB06

> <pre> preserves source whitespace; <code> marks code.

Study-note section WEB06

> indicates importance and stress; <b>/<i> have other text semantics and are not identical to importance/emphasis.

Question sources

Web Programming review questions · Question 4

Question 260 | NS0804

What is the highest-level heading tag in HTML?

A. <h6>

B. <heading>

C. <h0>

D. <h1>

Hint

Use the element or attribute meaning and document structure, rather than appearance or a similar-looking name.

Answer D: <h1>

WEB06 defines heading levels h1 through h6 as a hierarchy. h1 is the highest level and h6 the lowest, regardless of CSS choices that can change their visual size. heading and h0 are not the defined heading-level tags. The answer is semantic rank, not whichever text happens to be styled largest.

Why each choice is right or wrong

A - Incorrect: h6 is the lowest of the defined heading levels, not the highest.

B - Incorrect: heading is not one of the defined h1-h6 heading-level tags.

C - Incorrect: h0 is outside the defined heading levels in WEB06.

D - Correct: h1 is the highest semantic heading level in the h1-h6 hierarchy.

Primary note proof

Study-note section WEB06

> Heading levels h1-h6 express hierarchy, with h6 conventionally smallest in default styling, not a mandatory CSS size.

Question sources

Web Programming review questions · Question 5

Question 261 | NS0805

Which element is the root element of an HTML page?

A. <head>

B. <body>

C. <html>

D. <root>

Hint

Use the element or attribute meaning and document structure, rather than appearance or a similar-looking name.

Answer C: <html>

WEB06 explicitly identifies html as the document root, with head holding metadata and body containing document content. Those two elements are inside the document rather than replacing its root. root is not the HTML tag used for this role. Thus the root-element question directly selects C.

Why each choice is right or wrong

A - Incorrect: head holds metadata and is not the document root.

B - Incorrect: body holds document content but is not the document's root element.

C - Correct: html is explicitly defined as the document root in WEB06.

D - Incorrect: root is not the HTML root tag given here.

Primary note proof

Study-note section WEB06

> <!DOCTYPE html> selects modern standards mode; <html> is the document root, <head> holds metadata, and <body> contains document content.

Question sources

Web Programming review questions · Question 6

Question 262 | NS0806

Which attribute provides alternative text for an image?

A. title

B. src

C. alt

D. caption

Hint

Use the element or attribute meaning and document structure, rather than appearance or a similar-looking name.

Answer C: alt

WEB07 gives img a src for its resource and alt for alternative text. Informative images need meaningful alternatives; decorative ones use empty alt. A title is not a replacement for alt, and a caption is separate visible context rather than the requested attribute. Therefore C names the accessibility text attribute.

Why each choice is right or wrong

A - Incorrect: title is not a replacement for the image’s alternative-text attribute.

B - Incorrect: src identifies the image resource rather than its alternative text.

C - Correct: alt supplies the image’s alternative text, or an empty value for purely decorative images.

D - Incorrect: caption is not the requested image alternative-text attribute.

Primary note proof

Study-note section WEB07

> <img src="photo.jpg" alt="Students in a lab"> supplies source and alternative text.

Study-note section WEB07

> Use empty alt for purely decorative images; informative images need meaningful alternatives.

Study-note section WEB07

> Width/height reserve dimensions; title is not a replacement for alt.

Question sources

Web Programming review questions · Question 7

Question 263 | NS0807

What does target="_blank" do in a link?

A. Opens the link in the same window

B. Opens the link in a new tab or window

C. Closes the current window

D. Opens the link in a parent frame

Hint

Use the element or attribute meaning and document structure, rather than appearance or a similar-looking name.

Answer B: Open a new browsing context, commonly a new tab or window.

WEB07 maps _blank to a new context, _self to current, and _parent to parent. Browser preferences decide tab versus window, so B correctly allows either. The target does not close the current window or select the parent frame. This is a browsing-context request rather than a guaranteed window-management UI behavior.

Why each choice is right or wrong

A - Incorrect: The current context is selected by _self rather than _blank.

B - Correct: _blank requests a new context, with tab versus window determined by browser behavior.

C - Incorrect: The target does not request that the current window be closed.

D - Incorrect: The parent context is selected by _parent rather than _blank.

Primary note proof

Study-note section WEB07

> target="_self" uses the current context, _blank a new context, _parent its parent and _top the top-level context.

Study-note section WEB07

> Browser preferences determine tab versus window.

Question sources

Web Programming review questions · Question 8

Question 264 | NS0808

Which HTML tag is used for an unordered list?

A.

B.

C.

D. <list>

Hint

Use the element or attribute meaning and document structure, rather than appearance or a similar-looking name.

Answer C:

WEB08 defines ul as unordered and ol as ordered, with li items inside either. C therefore supplies the requested container. li is only an item, and list is not the defined HTML list-container name. Presentation of markers can be changed with CSS without changing whether the element is the unordered-list structure.

Why each choice is right or wrong

A - Incorrect: ol is an ordered-list container, not the unordered-list container requested.

B - Incorrect: li marks an item inside a list rather than the list container itself.

C - Correct: ul is explicitly the unordered-list container in WEB08.

D - Incorrect: list is not the unordered-list element spelling defined here.

Primary note proof

Study-note section WEB08

> Unordered <ul> and ordered <ol> contain <li> items.

Question sources

Web Programming review questions · Question 9

Question 265 | NS0809

What HTML tag defines a table row?

A. <td>

B. <th>

C. <table>

D. <tr>

Hint

Use the element or attribute meaning and document structure, rather than appearance or a similar-looking name.

Answer D: <tr>

WEB08 distinguishes the table element, row elements, and header/data cells. tr defines one row, while th and td are cells placed within rows. table contains the complete tabular structure. Therefore D is the row tag, independent of how many columns or spans the cells in that row occupy.

Why each choice is right or wrong

A - Incorrect: td defines a data cell, not the containing row.

B - Incorrect: th defines a header cell, not the containing row.

C - Incorrect: table defines the whole table rather than one row.

D - Correct: tr is the table-row element explicitly identified in WEB08.

Primary note proof

Study-note section WEB08

> <table> contains rows <tr>, header cells <th> and data cells <td>; a td is not the table itself.

Question sources

Web Programming review questions · Question 10

Question 266 | NS0810

What does the colspan attribute do in a table?

A. Sets the column color

B. Merges cells across multiple columns

C. Sets the column width

D. Merges cells across multiple rows

Hint

Use the element or attribute meaning and document structure, rather than appearance or a similar-looking name.

Answer B: Make one cell span multiple columns.

WEB08 explicitly distinguishes colspan from rowspan. colspan allocates a cell across columns, often described informally as merging cells horizontally; it does not change a column's color or width rule. rowspan is the vertical counterpart across rows. B therefore matches, while actual placement must still account for positions already occupied by spans.

Why each choice is right or wrong

A - Incorrect: Column color is a styling concern rather than the colspan structural span.

B - Correct: colspan makes one cell occupy positions across multiple columns.

C - Incorrect: Column width is not the meaning of the colspan count.

D - Incorrect: Spanning rows is rowspan, not colspan.

Primary note proof

Study-note section WEB08

> colspan spans columns; rowspan spans rows.

Study-note section WEB08

> Account for occupied cells before placing the next cell, and use header associations for accessible data.

Question sources

Web Programming review questions · Question 11

Question 267 | NS0811

Which meta tag is used for responsive design on mobile devices?

A. <meta name="keywords">

B. <meta name="robots">

C. <meta name="description">

D. <meta name="viewport">

Hint

Identify the requested presentation effect and layout context before matching the property or rule.

Answer D: <meta name="viewport">

WEB06 gives viewport metadata control over mobile viewport behavior, and WEB14 includes it alongside flexible layout and media queries for responsive design. Keywords and description concern metadata for content/discoverability, while robots concerns crawler directives. The viewport entry is the relevant mobile-layout metadata; it does not replace responsive CSS by itself.

Why each choice is right or wrong

A - Incorrect: Keywords metadata does not configure the mobile viewport used for responsive layout.

B - Incorrect: Robots metadata concerns crawler handling rather than the mobile viewport.

C - Incorrect: Description summarizes the page rather than controlling mobile viewport behavior.

D - Correct: Viewport metadata configures mobile viewport behavior as part of responsive design.

Primary note proof

Study-note section WEB06

> Meta charset declares encoding; description summarizes the page; viewport controls mobile viewport behavior.

Study-note section WEB14

> Responsive design combines flexible layout, images, viewport metadata and media queries, for example @media(max-width:600px){.cards{grid-template-columns:1fr}}.

Study-note section WEB-S12

> The keywords metadata name supplies terms relevant to the page, while description supplies a page summary.

Study-note section WEB-S12

> Robots metadata supplies crawler indexing or search-presentation instructions.

Question sources

Web Programming review questions · Question 12

Question 268 | NS0812

Which CSS selector targets an element with id="logo"?

A. .logo

B. logo

C. *logo

D. #logo

Hint

Identify which elements a rule targets and distinguish selector syntax from declaration syntax.

Answer D: #logo

WEB11 explicitly uses #logo as an ID selector and .notice as a class selector. Thus an element whose id is logo is targeted with #logo. A bare logo would be a type selector for an element named logo, while the starred concatenation is not the stated ID syntax. D is the correct selector.

Why each choice is right or wrong

A - Incorrect: .logo targets a class named logo rather than id="logo".

B - Incorrect: Bare logo is a type selector, not the ID selector requested.

C - Incorrect: *logo is not the defined CSS ID-selector syntax.

D - Correct: #logo is the explicit ID-selector pattern supplied in WEB11.

Primary note proof

Study-note section WEB11

> Type p selects paragraph elements, .notice selects a class, #logo an ID, h1,h2 groups selectors, nav ul selects descendants and nav>ul direct children.

Question sources

Web Programming review questions · Question 13

Question 269 | NS0813

Which CSS selector targets all elements with class="highlight"?

A. #highlight

B. .highlight

C. *highlight

D. highlight

Hint

Identify which elements a rule targets and distinguish selector syntax from declaration syntax.

Answer B: .highlight

WEB11 gives a dot-prefixed name as a class selector and a hash-prefixed name as an ID selector. Applying that rule to highlight yields .highlight. A bare word selects element type, and *highlight is not the supported class syntax. The class rule can match every element carrying that class, rather than only one unique ID.

Why each choice is right or wrong

A - Incorrect: #highlight selects an ID rather than elements with the highlight class.

B - Correct: .highlight is the dot-prefixed class selector matching the requested class.

C - Incorrect: *highlight is not the defined class-selector syntax.

D - Incorrect: Bare highlight is an element-type selector rather than a class selector.

Primary note proof

Study-note section WEB11

> Type p selects paragraph elements, .notice selects a class, #logo an ID, h1,h2 groups selectors, nav ul selects descendants and nav>ul direct children.

Question sources

Web Programming review questions · Question 14

Question 270 | NS0814

Which method of inserting CSS allows it to apply to multiple pages?

A. Inline

B. Internal

C. External

D. Embedded

Hint

Identify which elements a rule targets and distinguish selector syntax from declaration syntax.

Answer C: External stylesheet

WEB11 says external CSS promotes reuse and consistent design through a linked stylesheet. Multiple documents can link the same styles.css file, so one shared source applies across pages. Inline declarations belong to one element and internal/embedded style blocks belong to their document. They can be copied, but copying is not the shared-source attachment method requested.

Why each choice is right or wrong

A - Incorrect: Inline declarations belong to an element rather than one shared stylesheet linked by multiple pages.

B - Incorrect: An internal style block belongs to its document rather than a separately shared resource.

C - Correct: Multiple pages can link the same external stylesheet for shared rules and maintenance.

D - Incorrect: Embedded styles are document-local rather than the shared external attachment method.

Primary note proof

Study-note section WEB11

> An external sheet uses <link rel="stylesheet" href="styles.css"> in head; an internal sheet uses style; an inline declaration uses an element’s style attribute.

Study-note section WEB11

> External CSS promotes reuse, consistent design and caching; it does not guarantee that every page becomes smaller or accessible.

Question sources

Web Programming review questions · Question 15

Question 271 | NS0815

What symbol is used to group multiple selectors in CSS?

A. Semicolon (;)

B. Colon (:)

C. Comma (,)

D. Dot (.)

Hint

Identify which elements a rule targets and distinguish selector syntax from declaration syntax.

Answer C: Comma

WEB11 groups selectors using h1,h2. The comma separates alternative selectors that receive the same declaration block. Semicolons separate declarations, colons separate a property from its value or occur in pseudo syntax, and dots introduce classes. Thus C is the selector-list grouping separator, not a declaration delimiter.

Why each choice is right or wrong

A - Incorrect: Semicolons separate declarations rather than selectors in a selector list.

B - Incorrect: A colon is not the separator for grouped alternative selectors.

C - Correct: A comma groups selector alternatives, as in the note's h1,h2 example.

D - Incorrect: A dot introduces a class selector rather than grouping multiple selectors.

Primary note proof

Study-note section WEB11

> Type p selects paragraph elements, .notice selects a class, #logo an ID, h1,h2 groups selectors, nav ul selects descendants and nav>ul direct children.

Study-note section WEB11

> A rule is selector { property: value; }.

Question sources

Web Programming review questions · Question 16

Question 272 | NS0816

What does text-decoration: underline do in CSS?

A. Makes text bold

B. Makes text italic

C. Underlines text

D. Strikes through text

Hint

Identify the requested presentation effect and layout context before matching the property or rule.

Answer C: Underline the text.

WEB13 assigns text-decoration effects such as underline. The specific value underline therefore adds an underline decoration. Bold uses font-weight and italic uses font-style; a strike-through is a different decoration value. The declaration changes presentation rather than the semantic importance or stress of the underlying HTML text.

Why each choice is right or wrong

A - Incorrect: Boldness is controlled by font-weight rather than the underline decoration.

B - Incorrect: Italic styling uses font-style rather than text-decoration:underline.

C - Correct: The underline value requests an underline text decoration.

D - Incorrect: A strike-through is a different decoration, not the underline value shown.

Primary note proof

Study-note section WEB13

> color sets text color; background-color sets background; font-size size, font-family face, font-style italic, font-weight weight, text-align inline-content alignment, and text-decoration effects such as underline.

Question sources

Web Programming review questions · Question 17

Question 273 | NS0817

Which HTML tag makes text bold with semantic importance?

A. <b>

B. <bold>

C.

D.

Hint

Use the element or attribute meaning and document structure, rather than appearance or a similar-looking name.

Answer C:

WEB06 says strong expresses importance while em expresses stress, and warns that b/i are not identical to those meanings. Thus the semantic-importance requirement selects strong rather than merely a bold-looking b. Default styling is commonly bold but CSS can change appearance; the semantic distinction remains the reason for the answer.

Why each choice is right or wrong

A - Incorrect: b has different text semantics and is not the element for importance specified in WEB06.

B - Incorrect: bold is not the semantic importance element defined in the note.

C - Correct: strong explicitly indicates importance and is the requested semantic choice.

D - Incorrect: em marks stress emphasis rather than the stated importance role.

Primary note proof

Study-note section WEB06

> indicates importance and stress; <b>/<i> have other text semantics and are not identical to importance/emphasis.

Question sources

Web Programming review questions · Question 18

Question 274 | NS0818

Which HTML element is used for superscript text like E=mc²?

A. <sub>

B. <sup>

C. <small>

D.

Hint

Use the element or attribute meaning and document structure, rather than appearance or a similar-looking name.

Answer B: <sup>

WEB06 pairs sub and sup with subscript and superscript. The raised exponent in E=mc² is a superscript, so sup is the matching element. sub would lower text, and small or em have other meanings rather than expressing the exponent's raised placement. The answer identifies the markup role rather than a CSS font-size choice.

Why each choice is right or wrong

A - Incorrect: sub marks subscript, the opposite vertical placement from the raised exponent.

B - Correct: sup marks superscript such as the raised two in E=mc².

C - Incorrect: small does not identify the superscript placement required by the example.

D - Incorrect: em marks stress emphasis rather than superscript position.

Primary note proof

Study-note section WEB06

> <sub>/<sup> mark sub/superscripts.

Question sources

Web Programming review questions · Question 19

Question 275 | NS0819

What is the purpose of HTML comments?

A. They are displayed on the webpage

B. They style the content

C. They are ignored by the browser and add notes

D. They link to external files

Hint

Use the element or attribute meaning and document structure, rather than appearance or a similar-looking name.

Answer C: Comments add source notes without appearing as ordinary page content.

WEB06 states that <!-- comment --> is not displayed but remains visible in source. Thus C's ignored wording should mean ignored for ordinary visual rendering, not removed from the DOM or hidden from source inspection. Comments do not themselves style content or link an external file, so the other purposes do not match.

Why each choice is right or wrong

A - Incorrect: HTML comments are not displayed as ordinary document content.

B - Incorrect: Comments do not supply CSS declarations or style the content by themselves.

C - Correct: Comments hold source notes and are not normally rendered; they remain visible in source.

D - Incorrect: A comment is not the markup mechanism for linking external resources.

Primary note proof

Study-note section WEB06

> <!-- comment --> is not displayed but remains visible in source.

Question sources

Web Programming review questions · Question 20

Question 276 | NS0820

Which JavaScript keyword declares a block-scoped variable?

A. var

B. let

C. def

D. dim

Hint

Check exact language syntax, declaration rules and execution context before reasoning about the result.

Answer B: let

WEB15 explicitly distinguishes function/global var from block-scoped let and const. Of the offered names, let declares a block-scoped variable. const would additionally prevent rebinding but is not offered here. def and dim are not JavaScript declaration keywords in the supplied syntax. Therefore B matches the requested scope behavior.

Why each choice is right or wrong

A - Incorrect: var has function/global scope rather than the block scope requested.

B - Correct: let declares a block-scoped JavaScript variable.

C - Incorrect: def is not the JavaScript variable-declaration keyword defined in the note.

D - Incorrect: dim is not the JavaScript variable-declaration keyword defined in the note.

Primary note proof

Study-note section WEB15

> var has function/global scope; let/const are block-scoped.

Question sources

Web Programming review questions · Question 21

Question 277 | NS0821

Which JavaScript keyword declares a constant that cannot be reassigned?

A. static

B. final

C. var

D. const

Hint

Check exact language syntax, declaration rules and execution context before reasoning about the result.

Answer D: const

WEB15 says const prevents rebinding but does not prevent mutation of an object's contents. That is the precise constant-binding property in the stem. var permits reassignment, while static and final are not the declaration form described here. D therefore answers the binding question without claiming that every object assigned to const becomes deeply immutable.

Why each choice is right or wrong

A - Incorrect: static is not the const variable-declaration form for preventing rebinding.

B - Incorrect: final is not the JavaScript binding declaration defined in WEB15.

C - Incorrect: var permits reassignment and does not provide a constant binding.

D - Correct: const prevents rebinding, though object contents can still be mutated.

Primary note proof

Study-note section WEB15

> var has function/global scope; let/const are block-scoped.

Study-note section WEB15

> const prevents rebinding but not mutation of an object's contents.

Question sources

Web Programming review questions · Question 22

Question 278 | NS0822

How are single-line comments written in JavaScript?

A. <!-- comment -->

B. /* comment */

C. // comment

D. # comment

Hint

Use the element or attribute meaning and document structure, rather than appearance or a similar-looking name.

Answer C: // comment

WEB15 defines // comments as ending at the line end and /* */ as block comments. Therefore C is the single-line comment syntax. A block comment may be physically written on one line, but it remains a different delimiter form and can span lines. HTML and hash-style markers are not the single-line syntax requested in the note.

Why each choice is right or wrong

A - Incorrect: The shown marker is an HTML comment form rather than the standard JavaScript single-line form.

B - Incorrect: This is block-comment syntax, even when physically written on one line.

C - Correct: Double slash starts a JavaScript comment that ends at the line end.

D - Incorrect: A hash is not the ordinary JavaScript single-line comment delimiter given in WEB15.

Primary note proof

Study-note section WEB15

> // comments end at line end; /* */ span a block.

Study-note section WEB06

> <!-- comment --> is not displayed but remains visible in source.

Question sources

Web Programming review questions · Question 23

Question 279 | NS0823

A form uses onsubmit="return validate()". If validate() returns false, what happens to the cancelable default submission?

A. Submits the form

B. Refreshes the page

C. Prevents form submission

D. Clears all form fields

Hint

Separate event dispatch, handler registration and cancellation of the browser default action.

Answer C: Prevents form submission

The inline onsubmit convention consumes the value returned by validate. Returning false therefore cancels the form's default submission in this stated setup. It does not clear fields or explicitly refresh the page. The caller matters: returning false from a callback installed through addEventListener would not by itself cancel submission and would require preventDefault instead. The revised question includes the handler convention needed for the definite result.

Why each choice is right or wrong

A - Incorrect: The consumed false result cancels rather than initiates default submission.

B - Incorrect: No page-refresh action is requested by returning false.

C - Correct: The inline onsubmit return convention cancels the default submission.

D - Incorrect: Returning a Boolean does not clear control values.

Primary note proof

Study-note section WEB21

> Returning false from an addEventListener callback does not cancel it; return false works in an appropriate inline/onsubmit property handler whose caller uses that return.

Question sources

Web Programming review questions · Question 24

Question 280 | NS0824

Which event fires when a page finishes loading in JavaScript?

A. onclick

B. onsubmit

C. oninput

D. window.onload

Hint

Separate event dispatch, handler registration and cancellation of the browser default action.

Answer D: window.onload is the handler property for the page load event.

WEB22 says window.onload handles load, typically after dependent resources finish. D therefore names the relevant handler property, although the actual event name is load rather than window.onload. Click, submit, and input refer to other interactions. This distinction avoids confusing a property used to register a handler with the event object or event name itself.

Why each choice is right or wrong

A - Incorrect: onclick handles clicks, not completion of page resource loading.

B - Incorrect: onsubmit handles form submission, not the page load completion event.

C - Incorrect: oninput handles control input changes, not the page load completion event.

D - Correct: window.onload registers the handler for load, normally after dependent resources finish.

Primary note proof

Study-note section WEB22

> window.onload is a handler property for the load event, typically after dependent resources finish.

Study-note section WEB21

> An event handler runs when an event occurs: click, input, keydown, mouseover, submit and load are examples.

Question sources

Web Programming review questions · Question 25

Question 281 | NS0825

In PHP, how do you declare a variable named name with value 'John'?

A. var name = 'John';

B. let $name = 'John';

C. $name = 'John';

D. name = 'John';

Hint

Check exact language syntax, declaration rules and execution context before reasoning about the result.

Answer C: $name = 'John';

WEB23 requires a dollar-prefixed PHP variable name and permits dynamic typing without a preceding type declaration. C correctly assigns the single-quoted string to $name. var name and let mix other declaration syntax with PHP, while bare name lacks the required sigil. No separate JavaScript-style declaration keyword is needed for this ordinary PHP assignment.

Why each choice is right or wrong

A - Incorrect: This is not the ordinary PHP assignment syntax and lacks the dollar-prefixed variable name.

B - Incorrect: let is not the PHP declaration syntax for this assignment.

C - Correct: The dollar-prefixed variable and quoted string assignment are valid PHP syntax.

D - Incorrect: Bare name lacks the required dollar sigil for a PHP variable.

Primary note proof

Study-note section WEB23

> Variables begin with $, then a letter/underscore and subsequent letters/digits/underscores; $AGE18 works but $18AGE does not.

Study-note section WEB23

> Dynamic typing permits values of different types without a preceding type declaration, though optional declarations can constrain them.

Study-note section WEB-S06

> A complete ordinary PHP assignment statement ends with a semicolon.

Question sources

Web Programming review questions · Question 26

Question 282 | NS0826

Which PHP function returns the length of a string?

A. str_word_count()

B. strrev()

C. strlen()

D. strpos()

Hint

Identify the role requested and compare it with the definitions and constraints in the cited passages.

Answer C: strlen(), measuring bytes.

WEB24 says strlen counts bytes, so it is the matching length function. For ordinary ASCII strings byte count also equals character count; multibyte Unicode can differ. strrev reverses, strpos locates a substring, and a word-count operation does not measure the string's byte length. The qualification prevents treating strlen as a universal user-perceived-character counter.

Why each choice is right or wrong

A - Incorrect: Word counting does not measure the string's byte length.

B - Incorrect: strrev reverses the byte sequence rather than returning its length.

C - Correct: strlen returns byte length, matching the requested function with the Unicode caveat.

D - Incorrect: strpos returns a substring position or false rather than a length.

Primary note proof

Study-note section WEB24

> strlen counts bytes; strpos can return integer0 or false, requiring ===false for failure.

Study-note section WEB24

> strrev reverses bytes and str_replace replaces matching content.

Question sources

Web Programming review questions · Question 27

Question 283 | NS0827

What does strrev("Hello") return in PHP?

A. Hello

B. hello

C. HELLO

D. olleH

Hint

Identify the role requested and compare it with the definitions and constraints in the cited passages.

Answer D: olleH

WEB24 defines strrev as reversing bytes. Hello is ASCII, so reversing its five bytes gives o,l,l,e,H in that order, retaining the original uppercase H at the final position. The function does not perform lowercase or uppercase conversion and does not leave the sequence unchanged. D is the exact returned string.

Why each choice is right or wrong

A - Incorrect: Hello is unchanged, whereas strrev reverses the byte order.

B - Incorrect: Lowercasing is not the operation performed by strrev.

C - Incorrect: Uppercasing is not the operation performed by strrev.

D - Correct: Reversing the ASCII bytes H,e,l,l,o yields o,l,l,e,H.

Primary note proof

Study-note section WEB24

> strrev reverses bytes and str_replace replaces matching content.

Question sources

Web Programming review questions · Question 28

Question 284 | NS0828

Which PHP function finds the position of a substring within a string?

A. str_replace()

B. strpos()

C. strlen()

D. strrev()

Hint

Identify the role requested and compare it with the definitions and constraints in the cited passages.

Answer B: strpos()

WEB24 identifies strpos as the substring-position function and warns that a successful position zero differs from false. Use strict ===false when checking failure so an initial-position match is not mistaken for absence. Replacement, length, and reversal functions perform different operations. Thus B names the lookup API rather than a transformation function.

Why each choice is right or wrong

A - Incorrect: str_replace changes matching content rather than reporting the match position.

B - Correct: strpos finds a substring position, returning zero legitimately or false for failure.

C - Incorrect: strlen measures byte length rather than locating a substring.

D - Incorrect: strrev reverses bytes instead of reporting a match location.

Primary note proof

Study-note section WEB24

> strlen counts bytes; strpos can return integer0 or false, requiring ===false for failure.

Study-note section WEB24

> strrev reverses bytes and str_replace replaces matching content.

Question sources

Web Programming review questions · Question 29

Question 285 | NS0829

What is the key difference between include and require in PHP?

A. include is faster than require

B. require gives a fatal error if file is missing; include gives a warning

C. include gives a fatal error; require gives a warning

D. There is no difference

Hint

Identify the role requested and compare it with the definitions and constraints in the cited passages.

Answer B: include warns; failed require raises Error in PHP8 and stops normal execution if uncaught.

WEB33 distinguishes include's warning from require's critical failure. B captures the conventional contrast when require's failure is uncaught, but PHP8 raises a catchable Error rather than the older E_COMPILE_ERROR description. The distinction is failure behavior, not an inherent speed ranking. C reverses the behaviors and D denies the explicit difference.

Why each choice is right or wrong

A - Incorrect: No inherent speed advantage is the failure-handling distinction defined by WEB33.

B - Correct: This is the conventional contrast for an uncaught failure; PHP8 require raises a catchable Error.

C - Incorrect: This reverses include's warning and require's critical failure behavior.

D - Incorrect: The note explicitly distinguishes their behavior when the target file cannot be included.

Primary note proof

Study-note section WEB33

> include evaluates another file in the current scope and warns on failure; require fails critically.

Study-note section WEB33

> In PHP8 a failed require raises Error, which can be caught; uncaught it stops normal execution.

Question sources

Web Programming review questions · Question 30

Question 286 | NS0830

Which PHP superglobal is dedicated specifically to supported form data submitted through POST, rather than a configurable mixture of request sources?

A. $_GET

B. $_SESSION

C. $_POST

D. $_REQUEST

Hint

Identify the data source or security responsibility precisely, and check whether a combined source or a different control could also qualify.

Answer C: $_POST

$_POST directly represents supported form POST values. $_REQUEST can include POST values under some configurations, but it combines sources and is not dedicated to the form POST channel. $_GET represents URL query values and $_SESSION contains application session state. The source-specific wording makes C unique while preserving the fact that a configurable combined array may also expose some of the same submitted values.

Why each choice is right or wrong

A - Incorrect: $_GET supplies URL query values.

B - Incorrect: $_SESSION supplies stored session state rather than the current form POST source.

C - Correct: $_POST is dedicated to supported form POST data.

D - Incorrect: $_REQUEST may combine POST with other configured sources.

Primary note proof

Study-note section WEB27

> $_GET contains query parameters; $_POST contains supported form POST data; $_FILES upload metadata; $_SERVER request/environment details; $_COOKIE cookie values; $_SESSION session data after startup.

Study-note section WEB27

> $_REQUEST may combine GET/POST/cookie data according to configuration; it is not a database interface and has ambiguous precedence, so prefer the intended source.

Question sources

Web Programming review questions · Question 31

Question 287 | NS0831

Which SQL statement retrieves data from a database?

A. INSERT INTO

B. UPDATE

C. DELETE

D. SELECT

Hint

Identify the API and operation first, then distinguish connection setup, statement execution and result processing.

Answer D: SELECT

WEB32 directly assigns retrieval to SELECT, adding to INSERT, changing values to UPDATE, and removal to DELETE. Therefore D is the SQL statement role requested. This identifies the operation's semantics; the actual query still needs appropriate columns, filters, authorization, and safe parameter handling when incorporating submitted values.

Why each choice is right or wrong

A - Incorrect: INSERT INTO adds rows rather than naming the ordinary retrieval statement.

B - Incorrect: UPDATE changes stored values rather than the retrieval operation requested.

C - Incorrect: DELETE removes rows rather than retrieving them.

D - Correct: SELECT is explicitly the SQL operation that retrieves rows.

Primary note proof

Study-note section WEB32

> SELECT retrieves rows; INSERT adds; UPDATE ...

Question sources

Web Programming review questions · Question 32

Question 288 | NS0832

What keyword assigns new values in a SQL UPDATE statement?

A. VALUES

B. WHERE

C. SET

D. INTO

Hint

Identify the API and operation first, then distinguish connection setup, statement execution and result processing.

Answer C: SET

WEB32 gives UPDATE ... SET as the form that changes values. SET introduces the target-column assignments, while WHERE limits which rows are affected. VALUES and INTO occur in other statement roles and do not replace SET's assignment function. C therefore identifies the keyword requested, distinct from selecting the affected rows.

Why each choice is right or wrong

A - Incorrect: VALUES does not introduce assignments in the UPDATE ... SET form given here.

B - Incorrect: WHERE selects matching rows rather than assigning the new column values.

C - Correct: SET introduces the value assignments in an UPDATE statement.

D - Incorrect: INTO does not replace SET for assignments in the stated UPDATE form.

Primary note proof

Study-note section WEB32

> SELECT retrieves rows; INSERT adds; UPDATE ...

Study-note section WEB32

> WHERE limits affected/matching records; omitting it from DELETE ordinarily targets every row, subject to constraints, permissions and errors.

Question sources

Web Programming review questions · Question 33

Question 289 | NS0833

What happens if you use DELETE without a WHERE clause?

A. Nothing happens

B. Only the first record is deleted

C. An error is generated

D. All records in the table are deleted

Hint

Identify the API and operation first, then distinguish connection setup, statement execution and result processing.

Answer D: It ordinarily targets all rows for deletion, subject to constraints, permissions, and execution success.

WEB32 says WHERE limits affected rows and omitting it from DELETE ordinarily targets every row. Thus D is the intended effect of a successful unrestricted DELETE. No first-row-only rule exists, and omission is not inherently a syntax error. Permissions, constraints, or other errors can still prevent the operation, so the outcome is not an unconditional execution guarantee.

Why each choice is right or wrong

A - Incorrect: Without a filter, the statement ordinarily targets rows rather than doing nothing.

B - Incorrect: There is no implicit first-row-only restriction when WHERE is omitted.

C - Incorrect: Omitting WHERE is not by itself the stated syntax error.

D - Correct: A successful unrestricted DELETE ordinarily deletes all targeted table rows, subject to database controls.

Primary note proof

Study-note section WEB32

> WHERE limits affected/matching records; omitting it from DELETE ordinarily targets every row, subject to constraints, permissions and errors.

Question sources

Web Programming review questions · Question 34

Question 290 | NS0834

Which PHP function establishes a connection to MySQL?

A. mysql_open()

B. db_connect()

C. mysqli_connect()

D. connect_mysql()

Hint

Identify the API and operation first, then distinguish connection setup, statement execution and result processing.

Answer C: mysqli_connect()

WEB31 explicitly gives mysqli_connect(host,user,password,database,port,socket) as the MySQLi connection function. The other offered names are not the API identified here. Argument defaults and actual credentials affect connection success, so knowing the function name does not remove the need for configuration and failure handling. C is the valid connection entry point.

Why each choice is right or wrong

A - Incorrect: mysql_open() is not the MySQLi connection function given in WEB31.

B - Incorrect: db_connect() is not the standard MySQLi connection function identified here.

C - Correct: mysqli_connect() is explicitly the MySQLi connection-opening function in the note.

D - Incorrect: connect_mysql() is not the offered standard API name described by WEB31.

Primary note proof

Study-note section WEB31

> mysqli_connect(host,user,password,database,port,socket) opens a connection; selecting a database can be deferred, and defaults make several arguments technically optional.

Question sources

Web Programming review questions · Question 35

Question 291 | NS0835

Which PHP function returns the ID of the last inserted record?

A. mysqli_last_id()

B. mysqli_insert_id()

C. mysqli_get_id()

D. mysqli_row_id()

Hint

Identify the API and operation first, then distinguish connection setup, statement execution and result processing.

Answer B: mysqli_insert_id($conn), for a generated AUTO_INCREMENT value on that connection.

WEB32 identifies mysqli_insert_id($conn) as reporting the connection's generated AUTO_INCREMENT value. It is not a universal lookup of an arbitrary last row or a promise of gapless IDs. B names the correct function; the others invent different names. A connection argument and appropriate successful insertion context are needed in actual procedural code.

Why each choice is right or wrong

A - Incorrect: mysqli_last_id() is not the generated-value function named in WEB32.

B - Correct: mysqli_insert_id($conn) reports the connection's generated AUTO_INCREMENT value.

C - Incorrect: mysqli_get_id() is not the API identified for the generated insert value.

D - Incorrect: mysqli_row_id() is not the API named for a generated insert identifier.

Primary note proof

Study-note section WEB32

> mysqli_num_rows counts a result's rows; mysqli_affected_rows($conn) counts changed/inserted/deleted rows under its options; mysqli_insert_id($conn) reports a generated AUTO_INCREMENT value from the connection.

Study-note section WEB32

> AUTO_INCREMENT generates numeric values but gaps and explicit values are possible; do not promise gapless consecutive business numbering.

Question sources

Web Programming review questions · Question 36

Question 292 | NS0836

Which ordinary PHP variable scope can be accessed inside a function using a global declaration or, alternatively, the $GLOBALS array?

A. Local

B. Static

C. Global

D. Session

Hint

Identify the role requested and compare it with the definitions and constraints in the cited passages.

Answer C: Global

A variable declared outside functions has global scope. A function normally has separate local bindings, so it can explicitly import such a binding with global or access it through $GLOBALS. The keyword is therefore one mechanism, not a mandatory exclusive spelling. A static local remains a function-local binding whose value persists across calls; session state belongs to a superglobal available across scopes.

Why each choice is right or wrong

A - Incorrect: Ordinary local bindings already belong to that function; this is not importing an outside binding.

B - Incorrect: A static local retains its value across calls but remains local to the function.

C - Correct: Global bindings are the outside-function bindings accessed by these two mechanisms.

D - Incorrect: Session state uses a superglobal available across scopes, rather than this ordinary binding import.

Primary note proof

Study-note section WEB25

> A variable outside a function has global scope.

Study-note section WEB25

> A function’s locals and by-value parameters are separate bindings; use global $x or $GLOBALS["x"] to refer to a global explicitly.

Study-note section WEB25

> A static local retains its value across calls during the execution lifecycle; static storage is not simply another visibility scope.

Study-note section WEB25

> Superglobals are available across scopes.

Question sources

Web Programming review questions · Question 37

Question 293 | NS0837

What is a PHP static variable?

A. A variable that cannot be changed

B. A global variable accessible everywhere

C. A local variable that retains its value between function calls

D. A variable stored in a session

Hint

Check exact language syntax, declaration rules and execution context before reasoning about the result.

Answer C: A local variable that retains its value between calls during the execution lifecycle.

WEB25 defines a static local by persistence across function calls. It remains a local binding and can change value; static is not the same as constant, global visibility, or server session storage. Thus C supplies both the local-scope and retained-state aspects, without treating static duration as an independent universal visibility scope.

Why each choice is right or wrong

A - Incorrect: Static locals can change value; static does not mean immutable.

B - Incorrect: Static persistence does not make the variable a global visible everywhere.

C - Correct: A static local retains its value across calls during the execution lifecycle.

D - Incorrect: A static local is not the same as data stored in $_SESSION.

Primary note proof

Study-note section WEB25

> A static local retains its value across calls during the execution lifecycle; static storage is not simply another visibility scope.

Study-note section WEB23

> Constants cannot normally be redefined during execution.

Question sources

Web Programming review questions · Question 38

Question 294 | NS0838

What does var_dump() do in PHP?

A. Deletes a variable

B. Displays data type and value of a variable

C. Converts a variable to a string

D. Validates a variable

Hint

Check exact language syntax, declaration rules and execution context before reasoning about the result.

Answer B: Display the variable's type and value.

WEB23 explicitly states that var_dump displays type and value. It is diagnostic output, not a deletion, validation, or conversion guarantee. Observing a value can assist debugging, but it does not prove that the input satisfies application constraints. B is therefore the direct API purpose, while the alternatives describe unrelated operations.

Why each choice is right or wrong

A - Incorrect: var_dump does not delete the variable whose diagnostic information it displays.

B - Correct: The note explicitly defines var_dump as displaying type and value.

C - Incorrect: Diagnostic display is not a conversion of the original variable binding to a string.

D - Incorrect: Displaying a value does not establish application-specific validation.

Primary note proof

Study-note section WEB23

> var_dump displays type and value.

Question sources

Web Programming review questions · Question 39

Question 295 | NS0839

Which PHP data type represents the absence of a value?

A. Boolean

B. String

C. Integer

D. NULL

Hint

Check exact language syntax, declaration rules and execution context before reasoning about the result.

Answer D: NULL

WEB23 says null means no value. Boolean represents true or false, String text, and integer numeric values; none is the same absence marker. In particular zero, false, and an empty string can be legitimate present values rather than null. D therefore matches the requested absence-of-value representation.

Why each choice is right or wrong

A - Incorrect: A Boolean is a true/false value rather than the absence marker.

B - Incorrect: A string, including an empty one, is not the null absence marker.

C - Incorrect: An integer such as zero is still a value rather than null.

D - Correct: NULL is explicitly the no-value representation identified in WEB23.

Primary note proof

Study-note section WEB23

> Scalars include int,float,string,bool; arrays/objects are structured values and null means no value.

Question sources

Web Programming review questions · Question 40

Question 296 | NS0840

For ordinary HTML form submission, which statement correctly contrasts where POST places form data with GET's URL query?

A. POST is faster than GET

B. POST data is visible in the URL

C. POST form data normally goes in the request body rather than the URL query, subject to configured size limits

D. POST is easier to implement

Hint

Identify the protocol layer and the intended request, response or channel semantics.

Answer C: POST form data normally goes in the request body rather than the URL query, subject to configured size limits

Ordinary GET forms place name/value pairs in the URL query, whereas POST forms place them in the request body. This is a placement distinction, not encryption: tools can inspect the body, and servers impose configured limits. The other claims either put POST fields in the wrong location or assert universal speed/ease advantages that do not follow from the method semantics.

Why each choice is right or wrong

A - Incorrect: Method choice does not guarantee that a POST operation is faster; this is not the placement contrast asked for.

B - Incorrect: Ordinary POST form values are placed in the body, not the URL query used by GET forms.

C - Correct: This gives the body-versus-query distinction while retaining configured limits and making no secrecy claim.

D - Incorrect: Ease of implementation is application-dependent and does not describe the form-data placement difference.

Primary note proof

Study-note section WEB04

> GET forms usually put name/value pairs in the URL query; POST forms put them in the body.

Study-note section WEB04

> Neither method encrypts data.

Study-note section WEB04

> POST bodies are visible to developer tools and subject to server/configured size limits.

Question sources

Web Programming review questions · Question 41

Question 297 | NS0841

Which HTML form input type masks characters for security?

A. type="text"

B. type="hidden"

C. type="secure"

D. type="password"

Hint

Separate the control role, displayed content, submitted value and form destination.

Answer D: type="password"

WEB09 says password inputs mask display but do not encrypt the transmitted value. D therefore supplies the intended visual masking. Hidden inputs remove visible interaction rather than offering a masked text-entry control, text displays characters normally, and secure is not the type defined here. Transport and server protection remain separate obligations.

Why each choice is right or wrong

A - Incorrect: A text input displays entered characters normally rather than applying password masking.

B - Incorrect: A hidden input is not an interactive masked-character text field.

C - Incorrect: secure is not the password input type defined in the note.

D - Correct: password masks displayed characters while leaving encryption to separate transport controls.

Primary note proof

Study-note section WEB09

> type="password" masks display but does not encrypt.

Study-note section WEB-S02

> A hidden input carries a value without displaying an editable text field; it is not a password-masking control.

Question sources

Web Programming review questions · Question 42

Question 298 | NS0842

What attribute groups radio buttons so only one can be selected?

A. id

B. value

C. name

D. group

Hint

Separate the control role, displayed content, submitted value and form destination.

Answer C: name

WEB09 explicitly groups same-name radio buttons for a single choice. id instead identifies an individual element and connects a label; value is the submitted selected value. group is not the grouping attribute defined here. Therefore C gives the shared attribute that creates the radio-choice group under the form-control model.

Why each choice is right or wrong

A - Incorrect: id identifies an individual control and associates labels rather than defining the shared radio group.

B - Incorrect: value supplies the selected control’s submitted value rather than the grouping key.

C - Correct: Radio buttons sharing the same name form a single-choice group.

D - Incorrect: group is not the radio-grouping attribute defined in WEB09.

Primary note proof

Study-note section WEB09

> A label’s for matches the control’s id; name identifies its submitted field.

Study-note section WEB09

> Same-name radio buttons form a single-choice group; checkboxes permit independent selections.

Study-note section WEB-S02

> For a text input, the value attribute supplies its initial text value; it does not specify the control’s width.

Question sources

Web Programming review questions · Question 43

Question 299 | NS0843

Which HTML element creates a dropdown menu?

A. <input type="dropdown">

B. <dropdown>

C. <select>

D. <menu>

Hint

Separate the control role, displayed content, submitted value and form destination.

Answer C: <select> containing <option> elements.

WEB09 defines select with option children as the choice control, conventionally rendered as a dropdown in its ordinary single-selection form. The input type dropdown and dropdown element are not the provided control syntax. menu is not the form-selection element requested. Additional attributes can alter select presentation, but the native form-control answer remains C.

Why each choice is right or wrong

A - Incorrect: dropdown is not the input type provided for this native selection control.

B - Incorrect: dropdown is not the native select element spelling defined by WEB09.

C - Correct: select with option children creates the native choice control commonly displayed as a dropdown.

D - Incorrect: menu is not the form-selection control defined by WEB09.

Primary note proof

Study-note section WEB09

> <select> contains <option>; textarea accepts multiple lines.

Question sources

Web Programming review questions · Question 44

Question 300 | NS0844

What does the accept attribute on a file-upload input do?

A. Automatically uploads the file

B. Hints which file types the browser’s file picker should offer

C. Sets the maximum file size

D. Validates the file name

Hint

Identify the role requested and compare it with the definitions and constraints in the cited passages.

Answer B: Hints which file types the browser’s file picker should offer

accept is a browser selection hint describing file types the picker should offer. It does not guarantee what an attacker can submit or what the server actually accepts. Server-side validation must separately check upload errors, size and content before safe storage. The attribute also neither initiates transfer, sets a maximum upload size nor validates a filename. The choice states the UI role without claiming server enforcement.

Why each choice is right or wrong

A - Incorrect: The attribute does not automatically start an upload.

B - Correct: This is the browser-picker hint described in the note.

C - Incorrect: Maximum upload size requires separate controls and validation.

D - Incorrect: The attribute does not validate filenames.

Primary note proof

Study-note section WEB30

> accept hints to the browser which file types to offer; it does not enforce the server’s policy.

Study-note section WEB30

> Validate server-side size/content, inspect upload errors, use the temporary upload path, choose a safe generated destination and use move_uploaded_file.

Question sources

Web Programming review questions · Question 45

Question 301 | NS0845

Which listed HTML elements can embed supported video or other multimedia resources in a suitable environment? Select all that apply.

A. <video>

B. <media>

C. <embed>

D. <object>

Hint

Use the element or attribute meaning and document structure, rather than appearance or a similar-looking name.

Answer A, C, D: <video>; <embed>; <object>

video is the native HTML element for video, and embed and object can also embed supported resources, including multimedia in a suitable environment. The question allows these different embedding mechanisms rather than asking only for the native video element. media is not the corresponding HTML element. Browser support, resource formats and appropriate permissions still matter; the selection describes capability rather than guaranteed playback of every resource.

Why each choice is right or wrong

A - Correct: video is the native HTML video element.

B - Incorrect: media is not the HTML multimedia-embedding element identified here.

C - Correct: embed can embed supported multimedia resources.

D - Correct: object can embed supported multimedia resources.

Primary note proof

Study-note section WEB10

> Modern audio/video elements embed supported media, often with controls and fallback content; embed/object can also embed supported resources.

Question sources

Web Programming review questions · Question 46

Question 302 | NS0846

What does session_start() do in PHP?

A. Creates a new database connection

B. Starts or resumes a session to store user data

C. Starts an HTML form

D. Initializes a new variable

Hint

Follow the identifier and server-side state through the stated lifecycle or access check; distinguish client-controlled claims from server decisions.

Answer B: Start or resume PHP session handling and make $_SESSION available.

WEB29 directly defines session_start() as starting or resuming session handling. The browser normally holds an opaque identifier while server-controlled storage holds the session data. This is separate from a database connection or an HTML form. It does not simply initialize one arbitrary variable, and the server still must validate authorization for protected actions.

Why each choice is right or wrong

A - Incorrect: Session startup is separate from opening a database connection.

B - Correct: session_start starts or resumes PHP session handling and makes $_SESSION available.

C - Incorrect: It is not an HTML form-starting operation.

D - Incorrect: It initializes session handling rather than merely declaring one arbitrary variable.

Primary note proof

Study-note section WEB29

> session_start() starts/resumes PHP session handling and makes $_SESSION available.

Study-note section WEB29

> Normally the browser holds an opaque session identifier while data resides in server-controlled storage.

Question sources

Web Programming review questions · Question 47

Question 303 | NS0847

In CSS, which selector type is denoted by a dot (.)?

A. ID selector

B. Element selector

C. Group selector

D. Class selector

Hint

Identify which elements a rule targets and distinguish selector syntax from declaration syntax.

Answer D: Class selector

WEB11 defines .notice as a class selector and #logo as an ID selector. The dot is therefore the prefix for a class name, while an element selector uses its type name and grouping uses commas. D correctly identifies the selector category rather than a declaration property or an element's unique ID.

Why each choice is right or wrong

A - Incorrect: An ID selector uses # rather than a dot.

B - Incorrect: An element/type selector uses the element name without the class prefix.

C - Incorrect: Grouping uses commas between selectors, not a dot.

D - Correct: A dot prefixes a class selector, as in .notice.

Primary note proof

Study-note section WEB11

> Type p selects paragraph elements, .notice selects a class, #logo an ID, h1,h2 groups selectors, nav ul selects descendants and nav>ul direct children.

Question sources

Web Programming review questions · Question 48

Question 304 | NS0848

What does the SQL AUTO_INCREMENT property do?

A. Auto-updates a column when a record is modified

B. Generates a unique sequential number for a column

C. Automatically deletes old records

D. Automatically backs up the database

Hint

Identify the API and operation first, then distinguish connection setup, statement execution and result processing.

Answer B: Generate automatic numeric values, commonly used for keyed row identifiers; gaps are possible.

WEB32 says AUTO_INCREMENT generates numeric values and permits gaps or explicit values. B is the intended generated-number description when used with the normal keyed column design, but sequential must not mean gapless business numbering or a promise about every manually supplied value. It does not update arbitrary columns, delete records, or back up the database.

Why each choice is right or wrong

A - Incorrect: AUTO_INCREMENT does not automatically update an arbitrary column whenever a record is modified.

B - Correct: It generates numeric values commonly used for row identifiers; gaps and explicit values remain possible.

C - Incorrect: It does not automatically delete old rows.

D - Incorrect: It does not perform database backups.

Primary note proof

Study-note section WEB32

> AUTO_INCREMENT generates numeric values but gaps and explicit values are possible; do not promise gapless consecutive business numbering.

Question sources

Web Programming review questions · Question 49

Question 305 | NS0849

Which PHP function closes a MySQL database connection?

A. mysqli_end()

B. mysqli_disconnect()

C. mysqli_close()

D. db_close()

Hint

Identify the API and operation first, then distinguish connection setup, statement execution and result processing.

Answer C: mysqli_close($conn)

WEB32 explicitly gives mysqli_close as closing a connection. C names that MySQLi API; the procedural form uses the connection argument in real code. Closing a connection is separate from ending a query or deleting stored data, and the other offered function names are not the standard one identified here.

Why each choice is right or wrong

A - Incorrect: mysqli_end() is not the connection-closing function named in WEB32.

B - Incorrect: mysqli_disconnect() is not the API identified here for this operation.

C - Correct: mysqli_close closes the MySQLi connection, using its connection argument in procedural code.

D - Incorrect: db_close() is not the standard MySQLi function named in the supplied note.

Primary note proof

Study-note section WEB32

> Escape rendered cell text; use prepared statements for submitted values; mysqli_close closes the connection.

Question sources

Web Programming review questions · Question 50