

# COMPUTER SCIENCE

## CORE-11 (WEB TECHNOLOGY)

### Fill in the Blanks

1. The Internet is a global network of \_\_\_\_\_. Answer: Computers
2. \_\_\_\_\_ is a fundamental protocol used for communication on the World Wide Web. Answer: HTTP (Hypertext Transfer Protocol)
3. An HTTP \_\_\_\_\_ message is sent from a client to request information from a server. Answer: Request
4. The HTTP \_\_\_\_\_ message is sent from a server to provide a response to a client's request. Answer: Response
5. Web clients and web servers are key components in the \_\_\_\_\_ model of web communication. Answer: Client-Server
6. HTML stands for \_\_\_\_\_. Answer: HyperText Markup Language
7. An HTML document consists of \_\_\_\_\_ elements. Answer: HTML
8. The basic structure of an HTML document includes the opening and closing \_\_\_\_\_ tags. Answer: <html> </html>
9. To create an HTML document, you start with the \_\_\_\_\_ tag. Answer: <!DOCTYPE>
10. HTML uses \_\_\_\_\_ tags to define the structure and content of a webpage. Answer: Markup
11. The \_\_\_\_\_ tag is used to define headings in HTML. Answer: <h1>, <h2>, <h3>, etc.
12. To create a paragraph in HTML, you use the \_\_\_\_\_ tag. Answer: <p>
13. The \_\_\_\_\_ tag is used to insert a line break in HTML. Answer: <br>
14. HTML tags are enclosed in \_\_\_\_\_. Answer: Angle brackets (< >)
15. \_\_\_\_\_ tags are used for text formatting in HTML. Answer: Style
16. Lists in HTML can be created using \_\_\_\_\_ and \_\_\_\_\_ tags. Answer: <ul> (unordered list), <ol> (ordered list)
17. Tables in HTML are created using the \_\_\_\_\_ tag. Answer: <table>
18. \_\_\_\_\_ are used to define rows in an HTML table. Answer: <tr> (table row)
19. Hyperlinks are created in HTML using the \_\_\_\_\_ tag. Answer: <a> (anchor)
20. The \_\_\_\_\_ attribute of the <a> tag specifies the destination URL of a hyperlink. Answer: href
21. To display images in HTML, you use the \_\_\_\_\_ tag. Answer: <img>
22. The \_\_\_\_\_ attribute of the <img> tag specifies the image source file. Answer: src
23. Multimedia content like audio and video can be embedded in HTML using the \_\_\_\_\_ tag. Answer: <audio>, <video>
24. HTML forms are created using the \_\_\_\_\_ tag. Answer: <form>
25. Input fields in HTML forms are defined using the \_\_\_\_\_ tag. Answer: <input>
26. The \_\_\_\_\_ attribute of the <input> tag specifies the type of input field (e.g., text, password, checkbox). Answer: type
27. Radio buttons and checkboxes are examples of \_\_\_\_\_ controls in HTML forms. Answer: Form
28. The \_\_\_\_\_ tag is used for grouping related form elements together. Answer: <fieldset>
29. The \_\_\_\_\_ attribute of the <form> tag specifies the URL where form data should be submitted. Answer: action
30. The \_\_\_\_\_ attribute of the <input> tag is used to define the name of the input field, which is sent with the form data. Answer: name
31. CSS stands for \_\_\_\_\_. Answer: Cascading Style Sheets

32. CSS is used for \_\_\_\_\_ web page elements. Answer: Styling or formatting
33. A CSS \_\_\_\_\_ defines the styles to be applied to HTML elements. Answer: Style sheet
34. CSS allows you to control the \_\_\_\_\_ of HTML elements. Answer: Presentation
35. \_\_\_\_\_ is the process of applying multiple styles to an element, with styles from different sources cascading down. Answer: Cascading
36. To create an external style sheet, you save it with a \_\_\_\_\_ file extension. Answer: .css
37. CSS properties define the \_\_\_\_\_ of HTML elements. Answer: Style or appearance
38. The CSS \_\_\_\_\_ property sets the background color of an element. Answer: background-color
39. The CSS \_\_\_\_\_ property is used to format text, including color, font size, and font family. Answer: font
40. The \_\_\_\_\_ property in CSS determines the space between lines of text. Answer: line-height
41. CSS can be used to style \_\_\_\_\_ elements like <div> and <p>. Answer: Block
42. HTML \_\_\_\_\_ elements include headings, paragraphs, and lists. Answer: Block
43. CSS can be used to control the spacing between HTML elements using \_\_\_\_\_ properties. Answer: Margin
44. The \_\_\_\_\_ property in CSS sets the width of the border around an element. Answer: border-width
45. Padding inside an element is controlled using the \_\_\_\_\_ property in CSS. Answer: padding
46. The \_\_\_\_\_ property in CSS controls the space between the outer edge of an element and surrounding elements. Answer: margin
47. CSS allows you to specify colors using \_\_\_\_\_ names or hexadecimal values. Answer: Color
48. Grouping CSS selectors allows you to apply the same styles to \_\_\_\_\_ elements. Answer: Multiple
49. CSS \_\_\_\_\_ selectors are used to target specific elements with a unique identifier. Answer: ID
50. \_\_\_\_\_ selectors in CSS allow you to apply styles to multiple elements with the same class. Answer: Class
51. The CSS \_\_\_\_\_ model describes how elements are displayed on a webpage. Answer: Box
52. The CSS \_\_\_\_\_ property sets the style of the border around an element. Answer: border-style
53. The \_\_\_\_\_ property in CSS defines the distance between the content and the border. Answer: padding
54. The \_\_\_\_\_ property in CSS sets the space between elements. Answer: margin
55. CSS \_\_\_\_\_ property specifies the width and height of an element. Answer: Width
56. The CSS \_\_\_\_\_ property controls how an element is displayed. Answer: Display
57. The \_\_\_\_\_ property in CSS specifies the position of an element in relation to its containing element. Answer: Positioning
58. \_\_\_\_\_ elements in CSS are removed from the normal flow of the page and can float left or right. Answer: Floating
59. The CSS \_\_\_\_\_ property aligns text within an element. Answer: text-align
60. CSS \_\_\_\_\_ classes can be applied to elements based on user interactions, such as hovering over a link. Answer: Pseudo-class
61. JavaScript is a \_\_\_\_\_-side scripting language. Answer: Client

62. JavaScript is often used to add \_\_\_\_\_ and interactivity to web pages. Answer: Dynamic behavior
63. In JavaScript, a \_\_\_\_\_ is used to store data. Answer: Variable
64. JavaScript variables can be declared using the \_\_\_\_\_ keyword. Answer: var
65. A JavaScript \_\_\_\_\_ is a block of reusable code. Answer: Function
66. You can call a JavaScript function using \_\_\_\_\_. Answer: Function name followed by parentheses
67. \_\_\_\_\_ are used in JavaScript to make decisions based on conditions. Answer: Conditional statements
68. The \_\_\_\_\_ statement in JavaScript is used for basic decision making. Answer: if
69. A \_\_\_\_\_ loop in JavaScript repeats a block of code while a condition is true. Answer: while
70. The \_\_\_\_\_ loop in JavaScript repeats a block of code a specific number of times. Answer: for
71. JavaScript uses \_\_\_\_\_ to work with objects, which are collections of properties and methods. Answer: Dot notation
72. JavaScript's built-in objects include \_\_\_\_\_ and \_\_\_\_\_. Answer: Math, Date
73. The \_\_\_\_\_ Object Model (DOM) is a programming interface for web documents. Answer: Document
74. The DOM allows JavaScript to access and manipulate \_\_\_\_\_ content. Answer: HTML
75. In JavaScript, you can access an HTML element using its \_\_\_\_\_. Answer: ID
76. JavaScript can be used to validate \_\_\_\_\_ input on web forms. Answer: User
77. JavaScript's \_\_\_\_\_ object is commonly used to work with user input and form data. Answer: Document
78. DHTML stands for \_\_\_\_\_ HTML. Answer: Dynamic
79. DHTML combines HTML, \_\_\_\_\_, JavaScript, events, and buttons to create dynamic web pages. Answer: CSS
80. In DHTML, \_\_\_\_\_ are used to trigger JavaScript functions. Answer: Events
81. JavaScript can be used to \_\_\_\_\_ and \_\_\_\_\_ web page elements in real-time. Answer: Show, Hide
82. To control your browser using JavaScript, you can manipulate the \_\_\_\_\_ and \_\_\_\_\_. Answer: Window, Document
83. You can open a new browser \_\_\_\_\_ using JavaScript. Answer: Window
84. JavaScript can be used to create \_\_\_\_\_ pop-ups on web pages. Answer: Alert
85. \_\_\_\_\_ is a built-in JavaScript object that represents a web browser's history. Answer: History
86. JavaScript can be used to change the \_\_\_\_\_ of a web page without loading a new page. Answer: Content
87. \_\_\_\_\_ is used to add dynamic behavior to web forms and pages. Answer: JavaScript
88. In JavaScript, you can create \_\_\_\_\_ animations by changing CSS properties over time. Answer: Smooth
89. \_\_\_\_\_ can be used to prevent a web form from submitting until it's validated. Answer: JavaScript
90. JavaScript can be used to create interactive \_\_\_\_\_ that respond to user actions. Answer: Buttons
91. PHP is a \_\_\_\_\_-side scripting language. Answer: Server
92. PHP stands for \_\_\_\_\_ Hypertext Preprocessor. Answer: PHP: Hypertext Preprocessor
93. PHP scripts are executed on the \_\_\_\_\_. Answer: Server
94. In PHP, a \_\_\_\_\_ is used to store data. Answer: Variable

95. Variables in PHP start with a \_\_\_\_\_ symbol. Answer: Dollar (\$) sign
96. PHP supports various data types, including \_\_\_\_\_ and \_\_\_\_\_. Answer: Integers, Strings
97. The \_\_\_\_\_ operator in PHP concatenates two strings. Answer: Dot (.)
98. PHP expressions are combinations of \_\_\_\_\_, \_\_\_\_\_, and \_\_\_\_\_. Answer: Values, Operators, Variables
99. \_\_\_\_\_ in PHP are values that do not change during script execution. Answer: Constants
100. The \_\_\_\_\_ statement in PHP is used for decision-making. Answer: if
101. A \_\_\_\_\_ loop in PHP executes a block of code while a condition is true. Answer: while
102. PHP's \_\_\_\_\_ statement allows you to perform actions a specific number of times. Answer: for
103. In PHP, you can create strings using \_\_\_\_\_ or \_\_\_\_\_ quotes. Answer: Single ('), Double (")
104. To access a character in a string, you use \_\_\_\_\_ notation. Answer: Array
105. The PHP \_\_\_\_\_ function is used to find the position of a substring in a string. Answer: strpos
106. You can replace occurrences of a substring in a string using \_\_\_\_\_. Answer: str\_replace
107. String \_\_\_\_\_ in PHP is the process of changing the appearance of text. Answer: Formatting
108. \_\_\_\_\_ are used in PHP to store multiple values in a single variable. Answer: Arrays
109. You can access elements in a PHP array using \_\_\_\_\_. Answer: Indexes
110. PHP supports \_\_\_\_\_ arrays, which contain arrays as elements. Answer: Multidimensional
111. The \_\_\_\_\_ function in PHP is used to establish a connection to a database. Answer: mysqli\_connect
112. SQL queries are executed in PHP using the \_\_\_\_\_ function. Answer: mysqli\_query
113. To fetch a row of data from a database in PHP, you can use the \_\_\_\_\_ function. Answer: mysqli\_fetch\_assoc
114. PHP's \_\_\_\_\_ function is used to insert data into a database. Answer: mysqli\_insert\_id
115. In PHP, the \_\_\_\_\_ statement is used to close a database connection. Answer: mysqli\_close
116. PHP allows you to work with various databases, such as \_\_\_\_\_ and \_\_\_\_\_. Answer: MySQL, PostgreSQL
117. The \_\_\_\_\_ operator in PHP checks if two values are equal in both value and type. Answer: === (strict equality)
118. PHP provides the \_\_\_\_\_ operator to check if a value exists within an array. Answer: in\_array
119. \_\_\_\_\_ is a widely used PHP framework for web development. Answer: Laravel
120. PHP \_\_\_\_\_ are predefined variables in PHP that are always accessible. Answer: Superglobals

## Short Type

### Web Essentials: Clients, Servers, and Communication

#### Clients, Servers, and Basic Internet Protocols

- What is a client in the context of the internet?
  - Answer:** A client is a device or software application that requests services or resources from a server.
- What is a server in the context of the internet?
  - Answer:** A server is a computer or software system that provides services or resources to clients over a network.

3. Name a fundamental internet protocol used for transferring web pages.

- **Answer:** HTTP (Hypertext Transfer Protocol).

4. What does HTTP stand for?

- **Answer:** Hypertext Transfer Protocol.

The WWW, HTTP Request-Response, Web Clients, and Web Servers

5. What does WWW stand for?

- **Answer:** World Wide Web.

6. Explain the concept of an HTTP request message.

- **Answer:** An HTTP request message is sent by a client to request a resource (e.g., a web page) from a web server.

7. What is an HTTP response message?

- **Answer:** An HTTP response message is sent by a web server to provide the requested resource to the client.

8. Name a popular web client.

- **Answer:** Web browsers like Chrome, Firefox, and Safari are popular web clients.

9. What software typically runs on a web server to handle HTTP requests?

- **Answer:** Web server software like Apache, Nginx, or Microsoft IIS.

Introduction to HTML

10. What does HTML stand for?

- **Answer:** Hypertext Markup Language.

11. What is the basic structure of an HTML document?

- **Answer:** It consists of opening and closing `<html>`, `<head>`, and `<body>` tags.

12. How do you create an HTML document?

- **Answer:** Create a plain text file and save it with the ".html" extension.

13. What are markup tags in HTML?

- **Answer:** Markup tags are used to define elements and structure within an HTML document.

14. How can you create a heading in HTML?

- **Answer:** Using the `<h1>` to `<h6>` tags, where `<h1>` is the highest level of heading.

15. How do you create paragraphs in HTML?

- **Answer:** Use the `<p>` tag to define paragraphs.

16. What HTML tag is used to create line breaks?

- **Answer:** `<br>` tag.

17. What is the purpose of HTML comments?

- **Answer:** HTML comments are used to provide notes or explanations in the code that are not displayed in the browser.

18. How can you add a hyperlink in HTML?

- **Answer:** Use the `<a>` (anchor) tag with the `href` attribute.

19. What HTML element is used to display images?

- **Answer:** The `<img>` element.

20. How can you embed multimedia content like videos or audio in HTML?

- **Answer:** Using the `<video>` and `<audio>` elements, respectively.

21. What HTML element is used to create forms?

- **Answer:** The `<form>` element.

22. How do you create form controls like text fields, checkboxes, and radio buttons?

- **Answer:** Using various form input elements like `<input>`, `<textarea>`, `<select>`, and others.

# Introduction to Cascading Style Sheets (CSS)

## Concepts of CSS and Creating Stylesheets

23. What does CSS stand for?

- **Answer:** Cascading Style Sheets.

24. What is the main purpose of CSS?

- **Answer:** CSS is used for controlling the presentation and layout of web pages.

25. How do you create a CSS stylesheet for an HTML document?

- **Answer:** Create a separate ".css" file and link it to the HTML document using the `<link>` tag.

26. What are CSS properties?

- **Answer:** CSS properties are attributes that define how elements should be styled.

27. What is the "cascading" part of CSS?

- **Answer:** It refers to the way multiple CSS rules can be applied to the same element, and the browser determines which one takes precedence.

## CSS Styling

28. How can you change the background color of an element using CSS?

- **Answer:** Use the `background-color` property.

29. What CSS property is used to control text formatting, such as font size and color?

- **Answer:** The `color` property.

30. How do you specify font styles and sizes for text using CSS?

- **Answer:** Use the `font-family` and `font-size` properties.

31. What is the purpose of the CSS `font-weight` property?

- **Answer:** It controls the thickness or boldness of text.

32. How can you set a border around an element in CSS?

- **Answer:** Use properties like `border`, `border-width`, and `border-color`.

33. What CSS property controls the spacing inside an element's border?

- **Answer:** The `padding` property.

34. How do you control the space outside an element's border using CSS?

- **Answer:** Use the `margin` property.

35. What is the CSS `color` property used for?

- **Answer:** It sets the text color.

## Working with Block Elements and Objects

36. What is a block-level element in HTML and CSS?

- **Answer:** A block-level element creates a new "block" formatting context, typically starting on a new line.

37. What is an inline element in HTML and CSS?

- **Answer:** An inline element does not start on a new line and only takes up as much width as necessary.

38. How can you make an element float to the left or right using CSS?

- **Answer:** Use the `float` property.

39. What is the purpose of the CSS `display` property?

- **Answer:** It controls how an element is displayed, such as block, inline, or none.

40. How can you center an element horizontally using CSS?

- **Answer:** Use the `margin` property with `auto` values.

## CSS ID and Class

41. What is the difference between an ID and a class in CSS?



- **Answer:** An ID is unique to one element, while a class can be applied to multiple elements.

42. How do you select an element by its ID in CSS?

- **Answer:** Use the # symbol followed by the ID name (e.g., #myElement).

43. How do you select elements by their class in CSS?

- **Answer:** Use the . symbol followed by the class name (e.g., .myClass).

44. Can an element have multiple classes?

- **Answer:** Yes, an element can have multiple classes separated by spaces (e.g., class="class1 class2").

#### Box Model

45. What is the CSS Box Model?

- **Answer:** The CSS Box Model describes how elements are rendered as rectangular boxes with content, padding, border, and margin.

46. How can you set the border properties of an element using CSS?

- **Answer:** Use properties like border-style, border-width, and border-color.

47. What is the purpose of the CSS padding property?

- **Answer:** It controls the space between an element's content and its border.

48. How do you specify the space outside an element using the CSS margin property?

- **Answer:** The margin property controls the space outside an element's border.

49. Explain the difference between margin and padding in the CSS Box Model.

- **Answer:** Margin controls the space outside an element, while padding controls the space between an element's content and its border.

#### CSS Color, Grouping, Dimensions, Display, Positioning, Floating

50. How can you specify colors in CSS?

- **Answer:** You can specify colors using color names, hexadecimal values, RGB values, or HSL values.

51. What is the purpose of CSS grouping?

- **Answer:** CSS grouping allows you to apply the same styles to multiple elements.

52. How do you change the dimensions of an element using CSS?

- **Answer:** Use properties like width and height.

53. What does the CSS display property control?

- **Answer:** It determines how an element is displayed, such as block, inline, inline-block, or none.

54. How can you position an element in CSS?

- **Answer:** Use the position property with values like static, relative, absolute, or fixed.

55. What is the purpose of the CSS float property?

- **Answer:** It allows an element to be taken out of the normal flow and positioned to the left or right of its container.

#### Pseudo-class, Navigation Bar, Image Sprites

56. What is a CSS pseudo-class?

- **Answer:** A pseudo-class is used to define a special state or behavior of an element, such as :hover for mouseover effects.

57. How can you create a navigation bar in HTML and CSS?

- **Answer:** Create a list of links (<ul> and <li> elements) and style them using CSS.

58. What are image sprites in web development?

- **Answer:** Image sprites are a technique where multiple images are combined into a single image, and CSS is used to display specific parts of the image for different elements.

## JavaScript

### Client-Side Scripting and JavaScript Basics

59. What is JavaScript?

- **Answer:** JavaScript is a scripting language used for adding interactivity and dynamic behavior to web pages.

60. Where is JavaScript typically executed, on the client or server?

- **Answer:** JavaScript is executed on the client-side, in the user's web browser.

61. How do you declare a variable in JavaScript?

- **Answer:** Use the `var`, `let`, or `const` keyword followed by the variable name.

62. What is the purpose of a JavaScript function?

- **Answer:** A function is a reusable block of code that performs a specific task.

63. How do you create a conditional statement in JavaScript?

- **Answer:** Use `if`, `else if`, and `else` statements to create conditions.

64. What is a loop in JavaScript?

- **Answer:** A loop is used to repeatedly execute a block of code while a condition is true.

65. What is the difference between `==` and `===` in JavaScript?

- **Answer:** `==` tests for equality with type coercion, while `===` tests for strict equality without type coercion.

### JavaScript Objects, the DOM, and Forms

66. What is an object in JavaScript?

- **Answer:** An object is a collection of key-value pairs, where each key is a property name and each value can be any data type.

67. What does the DOM stand for in web development?

- **Answer:** DOM stands for Document Object Model and represents the structured content of a web page as objects that can be manipulated using JavaScript.

68. How can you access and modify HTML elements using JavaScript?

- **Answer:** You can use JavaScript to access and modify HTML elements by selecting them through the DOM.

69. What is event handling in JavaScript?

- **Answer:** Event handling is the process of writing code to respond to user interactions with a web page, such as clicks and keystrokes.

70. How do you validate a form using JavaScript?

- **Answer:** You can use JavaScript to validate form input by checking user input against specified criteria.

## DHTML (Dynamic HTML)

### Combining HTML, CSS, JavaScript, Events, and Buttons

71. What does DHTML stand for?

- **Answer:** Dynamic HTML.

72. How does DHTML combine HTML, CSS, and JavaScript?

- **Answer:** DHTML combines these technologies to create interactive and dynamic web content.

73. What is an event in the context of DHTML?

- **Answer:** An event is an action or occurrence, such as a mouse click or keyboard input, that can trigger a JavaScript function.



74. How can you create buttons with JavaScript actions in HTML?

- **Answer:** You can create buttons by using the `<button>` element and associating JavaScript functions with their `onClick` event.

75. Give an example of an interactive DHTML feature.

- **Answer:** An interactive DHTML feature could be a button that toggles the visibility of a hidden element when clicked.

76. How do you use JavaScript to change the content of an HTML element dynamically?

- **Answer:** You can use JavaScript to select an HTML element and modify its `innerHTML` or `textContent` property.

## PHP

### Starting with Server-Side Scripting and PHP Basics

77. What is PHP?

- **Answer:** PHP is a server-side scripting language used for building dynamic web applications.

78. Where is PHP code executed, on the client or server?

- **Answer:** PHP code is executed on the server-side.

79. How do you declare variables in PHP?

- **Answer:** Variables in PHP are declared using the `$` symbol followed by the variable name (e.g., `$variableName`).

80. What are the basic data types in PHP?

- **Answer:** Basic data types in PHP include integers, floats, strings, booleans, arrays, and objects.

81. What is an operator in PHP?

- **Answer:** Operators in PHP are used to perform operations on variables and values, such as addition (+) or comparison (==).

82. How do you create conditional statements in PHP?

- **Answer:** Use `if`, `else if`, and `else` statements to create conditions in PHP.

83. What is the purpose of loops in PHP?

- **Answer:** Loops in PHP are used to repeat a block of code multiple times based on a condition.

84. How can you make decisions in PHP based on the value of a variable?

- **Answer:** Use `if` and `switch` statements to make decisions based on variable values.

## Strings and Arrays in PHP

85. How do you create strings in PHP?

- **Answer:** Strings in PHP can be created by enclosing text in single (`'`) or double (`"`) quotes.

86. What is the difference between single-quoted and double-quoted strings in PHP?

- **Answer:** Single-quoted strings are literal and do not interpret variables or special characters, while double-quoted strings do.

87. How can you access characters in a string in PHP?

- **Answer:** You can access characters in a string using square brackets and an index, e.g., `$str[0]` to get the first character.

88. What is an array in PHP?

- **Answer:** An array in PHP is a collection of values, each identified by a unique key or index.

89. How do you create an indexed array in PHP?

- **Answer:** You can create an indexed array using the `array()` constructor or shorthand `[]` notation.

90. What is a multidimensional array in PHP?

- **Answer:** A multidimensional array is an array of arrays, allowing you to create a more complex data structure.

91. How do you access values in a multidimensional array in PHP?

- **Answer:** Use multiple sets of square brackets to access values by their respective indices.

## PHP with Databases

92. How can PHP be used with databases?

- **Answer:** PHP can connect to databases using database-specific extensions (e.g., MySQLi or PDO) to perform database operations.

93. What is SQL, and how is it related to PHP?

- **Answer:** SQL (Structured Query Language) is a language used for managing relational databases. PHP can be used to send SQL queries to a database and retrieve or modify data.

94. How do you connect to a MySQL database using PHP?

- **Answer:** You can use the `mysqli_connect()` function to establish a connection to a MySQL database.

95. What is an SQL injection vulnerability, and how can it be prevented in PHP?

- **Answer:** An SQL injection vulnerability occurs when malicious SQL code is injected into user input. To prevent it, use prepared statements and parameterized queries.

96. How can you retrieve data from a MySQL database in PHP?

- **Answer:** Use SQL SELECT statements with PHP functions like `mysqli_query()` to retrieve data from a MySQL database.

97. How do you insert data into a MySQL database using PHP?

- **Answer:** Use SQL INSERT statements with PHP functions like `mysqli_query()` to insert data into a MySQL database.

98. What is the purpose of the PHP `mysqli_fetch_assoc()` function?

- **Answer:** It retrieves a row from a result set as an associative array, making it easier to access data by column names.

99. How can you update data in a MySQL database using PHP?

- **Answer:** Use SQL UPDATE statements with PHP functions like `mysqli_query()` to update data in a MySQL database.

100. How do you close a database connection in PHP?

- **Answer:** Use the `mysqli_close()` function to close the connection to a MySQL database in PHP.

## Long Type

### Web Essentials: Clients, Servers, and Communication

1. What are the fundamental components of the Internet architecture, including clients and servers?
2. Explain the role of Internet protocols in enabling communication between clients and servers.
3. Describe the basic functions of the World Wide Web (WWW) in the context of the Internet.
4. What is the purpose of HTTP (Hypertext Transfer Protocol) in web communication?

5. Differentiate between an HTTP request message and an HTTP response message.
6. Provide a detailed overview of the structure and content of an HTTP request message.
7. Explain the key components of an HTTP response message and their significance.
8. Compare and contrast web clients and web servers in the context of web communication.
9. Provide a case study highlighting the interaction between web clients and web servers in a specific scenario.
10. How is HTML (Hypertext Markup Language) related to web essentials, and why is it important?

## **Introduction to HTML**

11. What is HTML, and how does it contribute to the structure of web documents?
12. Describe the concept of HTML domains and their relevance in web development.
13. Walk through the basic structure of an HTML document and its essential elements.
14. What are markup tags in HTML, and how are they used to structure content?
15. Explain the purpose and usage of heading tags in HTML.
16. How can you create paragraphs and line breaks in an HTML document?
17. Provide examples of HTML tags commonly used for text formatting.
18. Discuss the various types of lists that can be created using HTML.
19. Explain how tables are created and formatted in HTML documents.
20. What is the role of frames in HTML, and how are they implemented in web pages?

## **Working with Hyperlinks, Images, and Multimedia in HTML**

21. How do you create hyperlinks in HTML, and what are their functionalities?
22. Explain the process of embedding images and multimedia elements in HTML documents.
23. Discuss the attributes and considerations related to image tags in HTML.
24. Provide examples of HTML tags for embedding audio and video content.
25. What are forms in HTML, and how can you create and customize form controls?
26. Describe the purpose of various form input types, such as text fields, checkboxes, and radio buttons.
27. Explain the role of form controls like buttons and submit in HTML forms.
28. Discuss the attributes used for form validation and user input handling in HTML.

## **Introduction to Cascading Style Sheets (CSS)**

29. What are the core concepts of Cascading Style Sheets (CSS) in web design?
30. Explain the process of creating a style sheet in CSS.
31. List and describe common CSS properties used for styling web content.
32. How does CSS impact the background properties of HTML elements?
33. Discuss CSS techniques for formatting and controlling text within web pages.
34. Explain how CSS allows for precise control over font properties in web design.
35. Describe the concept of block-level elements in CSS and their usage.
36. What are inline elements, and how do they differ from block-level elements in CSS?
37. Differentiate between CSS IDs and classes, and provide examples of their usage.
38. How does the CSS box model impact the layout and spacing of HTML elements?
39. Discuss CSS properties related to borders, padding, and margins.
40. Explain the role of CSS in defining colors and backgrounds on web pages.

## **Advanced CSS Concepts**

41. What is grouping in CSS, and how does it simplify style definitions?
42. Describe the use of dimensions in CSS for specifying sizes and measurements.
43. Explain the CSS property for controlling the display behavior of elements.
44. Discuss CSS positioning options, including relative, absolute, and fixed positioning.

45. How can floating elements be used to achieve specific layout effects in CSS?
46. What is the purpose of aligning elements in CSS, and what methods are available?
47. Provide examples of pseudo-classes and their application in CSS.
48. How do you create navigation bars using CSS, and what considerations are involved?
49. Explain the concept of image sprites and their benefits in web design.

## **JavaScript Fundamentals**

50. What is JavaScript, and how does it fit into the realm of client-side scripting?
51. Describe the structure and syntax of a simple JavaScript program.
52. Explain the role of variables in JavaScript and how they are declared.
53. Discuss the concept of functions in JavaScript and their importance in scripting.
54. Provide examples of conditional statements in JavaScript, including if-else and switch.
55. What are loops in JavaScript, and how do they facilitate repetitive tasks?
56. Describe the concept of arrays in JavaScript and their creation.
57. How can you access individual elements within JavaScript arrays?
58. Explain the concept of multidimensional arrays and their use cases in JavaScript.

## **JavaScript Objects and the DOM**

59. What are JavaScript objects, and how are they used to represent data?
60. Discuss the Document Object Model (DOM) and its relationship with web browsers.
61. Explain how JavaScript interacts with the DOM to manipulate web content.
62. Provide examples of JavaScript code for modifying HTML elements through the DOM.
63. Describe the significance of web browser environments in JavaScript development.
64. How can JavaScript be used for form handling and input validation on web pages?

## **Dynamic HTML (DHTML)**

65. What is Dynamic HTML (DHTML), and how does it combine HTML, CSS, and JavaScript?
66. Explain the role of events in DHTML and their relevance to user interaction.
67. Provide examples of using buttons in DHTML for triggering actions.
68. How can you control and manipulate the behavior of a web browser using DHTML?

## **PHP Basics**

69. What is PHP, and why is it used for server-side scripting in web development?
70. Discuss the fundamental concepts of PHP, including variables and data types.
71. Explain how operators and expressions are used in PHP to perform operations.
72. Describe constants in PHP and their advantages in coding.
73. How does PHP facilitate decision-making in scripts, and what constructs are used?
74. Discuss the creation, access, and manipulation of strings in PHP.
75. Explain the functions and techniques for searching and replacing strings in PHP.

## **Arrays and PHP with Databases**

76. How are arrays created and managed in PHP, and what are their applications?
77. Describe the process of accessing and modifying elements within PHP arrays.
78. What are multidimensional arrays, and how can they be utilized in PHP?
79. Explain the integration of PHP with databases and its importance.
80. How can PHP be used for basic database operations, such as querying and updating data?