

1. Introduction to JavaScript

Direct MCQs:

1. JavaScript is primarily used for:
a) Server-side scripting only
b) Client-side scripting
c) Database management
d) Operating system design
Answer: b) Client-side scripting
2. Which company developed JavaScript?
a) Microsoft
b) Netscape
c) Google
d) Sun Microsystems
Answer: b) Netscape
3. Which symbol is used for single-line comments in JavaScript?
a) /* */
b) #
c) //
d) <!-- -->
Answer: c) //

Scenario-Based MCQs:

4. A developer wants to validate form input in the browser before submitting to the server. Which technology is appropriate?
a) Java
b) JavaScript
c) SQL
d) PHP
Answer: b) JavaScript
5. A web page should display an alert when a user clicks a button. Which language handles this interaction?
a) HTML
b) CSS
c) JavaScript
d) XML
Answer: c) JavaScript

2. Client-Side Scripting

Direct MCQs:

1. Client-side scripts run:
a) On the server
b) On the client browser

- c) On a database
- d) On a network router

Answer: b) On the client browser

2. Which of the following is **not** a client-side scripting language?

- a) JavaScript
- b) VBScript
- c) Python
- d) ActionScript

Answer: c) Python

3. What is a benefit of client-side scripting?

- a) Reduces server load
- b) Modifies database directly
- c) Runs offline only
- d) Requires server-side compilation

Answer: a) Reduces server load

Scenario-Based MCQs:

4. A webpage updates a dropdown list dynamically without reloading the page. Which scripting is being used?

- a) Client-side scripting
- b) Server-side scripting
- c) Database scripting
- d) Middleware scripting

Answer: a) Client-side scripting

5. A developer wants to validate email format before sending it to the server. Which method should they use?

- a) Server-side validation
- b) Client-side validation using JavaScript
- c) SQL constraint
- d) HTML alone

Answer: b) Client-side validation using JavaScript

3. JavaScript Functions

Direct MCQs:

1. Which keyword is used to define a function in JavaScript?

- a) `func`
- b) `function`
- c) `define`
- d) `method`

Answer: b) `function`

2. What is the default return value of a function if none is specified?

- a) `null`
- b) `undefined`
- c) `0`

d) false

Answer: b) undefined

3. Which of the following is correct to call a function named `myFunction`?

a) `call myFunction()`

b) `myFunction()`

c) `run myFunction()`

d) `execute myFunction()`

Answer: b) `myFunction()`

Scenario-Based MCQs:

4. A developer wants to reuse a block of code multiple times in a program. What should they use?

a) Loop

b) Function

c) Variable

d) Object

Answer: b) Function

5. A function needs to accept an unspecified number of arguments. Which feature of JavaScript can handle this?

a) Closures

b) Rest parameters

c) Loops

d) Global variables

Answer: b) Rest parameters

4. FE (Front-End) JavaScript

Direct MCQs:

1. FE JavaScript is mainly used for:

a) Styling webpages

b) Interactivity in web pages

c) Database management

d) Server-side logic

Answer: b) Interactivity in web pages

2. Which object allows interaction with HTML elements in FE JavaScript?

a) JSON

b) DOM

c) Window

d) Array

Answer: b) DOM

3. Which event occurs when the user clicks on an HTML element?

a) `onmouseover`

b) `onclick`

c) `onload`

d) onhover

Answer: b) onclick

Scenario-Based MCQs:

4. A web form needs to show a tooltip when a user hovers over a text box. Which FE JS event should be used?

a) onclick

b) onhover

c) onmouseover

d) onchange

Answer: c) onmouseover

5. A page should automatically update part of the content when a user selects an option from a dropdown. Which JavaScript object is primarily used?

a) JSON

b) DOM

c) Array

d) Date

Answer: b) DOM

5. IIFE (Immediately Invoked Function Expression)

Direct MCQs:

1. What does IIFE stand for?

a) Inline Function Execution Expression

b) Immediately Invoked Function Expression

c) Immediate Function Extra Expression

d) Internal Function Invocation Expression

Answer: b) Immediately Invoked Function Expression

2. Which of the following is a correct IIFE syntax?

a) (function(){})()

b) function(){}()

c) function{}()

d) (function{})

Answer: a) (function(){})()

3. Why are IIFEs used in JavaScript?

a) To create global variables

b) To avoid polluting the global scope

c) To access DOM elements

d) To style HTML elements

Answer: b) To avoid polluting the global scope

Scenario-Based MCQs:

4. A developer wants to run some initialization code as soon as the page loads without calling a function manually. Which approach is suitable?

a) Normal function

- b) IIFE
- c) Event listener only
- d) Inline script

Answer: b) IIFE

5. Two developers are working on the same page. One wants to prevent variable conflicts. Which JavaScript feature helps achieve this?

- a) Global variables
- b) IIFE
- c) DOM elements
- d) Arrays

Answer: b) IIFE

6. Arrays

Direct MCQs:

1. How do you declare an array in JavaScript?
- a) `var arr = {1,2,3};`
 - b) `var arr = [1,2,3];`
 - c) `var arr = (1,2,3);`
 - d) `var arr = <1,2,3>;`
2. Which method adds an element to the end of an array?
- a) `push()`
 - b) `pop()`
 - c) `shift()`
 - d) `unshift()`

Answer: a) `push()`

3. Which method removes the first element of an array?
- a) `push()`
 - b) `pop()`
 - c) `shift()`
 - d) `unshift()`

Answer: c) `shift()`

Scenario-Based MCQs:

4. A developer wants to iterate over an array of user names and print each name in console. Which method can be used?

- a) `forEach()`
- b) `map()`
- c) `filter()`
- d) `reduce()`

Answer: a) `forEach()`

5. A program needs to create a new array with only even numbers from an existing array. Which method is best?
- a) `filter()`
 - b) `map()`
 - c) `pop()`
 - d) `slice()`
- Answer:** a) `filter()`

7. Date and Time Objects

Direct MCQs:

1. How do you create a new Date object in JavaScript?
- a) `var d = Date();`
 - b) `var d = new Date();`
 - c) `var d = Date.new();`
 - d) `var d = date();`
- Answer:** b) `var d = new Date();`
2. Which method returns the full year from a Date object?
- a) `getYear()`
 - b) `getFullYear()`
 - c) `getDate()`
 - d) `getMonth()`
- Answer:** b) `getFullYear()`
3. Which method sets the month for a Date object?
- a) `setMonth()`
 - b) `setFullYear()`
 - c) `setDate()`
 - d) `setDay()`
- Answer:** a) `setMonth()`

Scenario-Based MCQs:

4. A developer wants to calculate the difference in days between two dates. Which approach is suitable?
- a) Subtract two Date objects and divide by milliseconds in a day
 - b) Use `getDay()` method only
 - c) Use `toString()`
 - d) Compare strings
- Answer:** a) Subtract two Date objects and divide by milliseconds in a day
5. A web app needs to display the current time that updates every second. Which JavaScript function is suitable?
- a) `setTimeout()`
 - b) `setInterval()`
 - c) `Date.now()` only

d) `getTime()`

Answer: b) `setInterval()`

8. Closures

Direct MCQs:

1. What is a closure in JavaScript?

- a) A function with private variables accessible from outside
- b) A function combined with its lexical environment
- c) A class constructor
- d) An object method

Answer: b) A function combined with its lexical environment

2. Which keyword is necessary to create a closure?

- a) `this`
- b) `function`
- c) `var`
- d) No special keyword; any nested function can form a closure

Answer: d) No special keyword; any nested function can form a closure

3. Why are closures useful?

- a) To create private variables and encapsulation
- b) To increase global variables
- c) To store arrays only
- d) To manipulate DOM only

Answer: a) To create private variables and encapsulation

Scenario-Based MCQs:

4. A developer wants a counter function that maintains its own count even after multiple calls. Which feature is suitable?

- a) DOM
- b) Closure
- c) IIFE only
- d) JSON

Answer: b) Closure

5. A function inside another function needs access to the outer function's variables even after the outer function has executed. What allows this?

- a) Global variables
- b) Closure
- c) Event listeners
- d) AJAX call

Answer: b) Closure

9. DOM Objects

Direct MCQs:

1. DOM stands for:
 - a) Document Object Model
 - b) Data Object Method
 - c) Document Operation Model
 - d) Dynamic Object Management**Answer:** a) Document Object Model
2. Which method is used to select an element by its ID?
 - a) `document.query()`
 - b) `document.getElementById()`
 - c) `document.getElement()`
 - d) `document.queryId()`**Answer:** b) `document.getElementById()`
3. Which property changes the inner HTML content of an element?
 - a) `innerText`
 - b) `innerHTML`
 - c) `textContent`
 - d) `value`**Answer:** b) `innerHTML`

Scenario-Based MCQs:

4. A developer wants to hide an element when a user clicks a button. Which DOM property can be used?

- a) `style.display = "none"`
- b) `innerHTML = ""`
- c) `removeChild()` only
- d) `value = "hide"`

Answer: a) `style.display = "none"`

5. A webpage has multiple paragraphs and the developer wants to change the color of all `<p>` tags. Which method is best?

- a) `getElementsByTagName("p")`
- b) `getElementById("p")`
- c) `querySelector("#p")`
- d) `querySelectorAll("p")`

Answer: d) `querySelectorAll("p")`

10. JSON (JavaScript Object Notation)

Direct MCQs:

1. JSON is mainly used for:
 - a) Styling web pages
 - b) Storing and exchanging data
 - c) Adding interactivity
 - d) Creating classes**Answer:** b) Storing and exchanging data

2. Which method converts a JSON string into a JavaScript object?

- a) `JSON.stringify()`
- b) `JSON.parse()`
- c) `JSON.convert()`
- d) `JSON.object()`

Answer: b) `JSON.parse()`

3. Which method converts a JavaScript object to a JSON string?

- a) `JSON.stringify()`
- b) `JSON.parse()`
- c) `JSON.toString()`
- d) `JSON.object()`

Answer: a) `JSON.stringify()`

Scenario-Based MCQs:

4. A developer receives JSON data from a server and wants to access the property `name`. What is the first step?

- a) Directly access `data.name` without parsing
- b) Convert the JSON string to a JavaScript object using `JSON.parse()`
- c) Use `JSON.stringify()`
- d) Use DOM manipulation

Answer: b) Convert the JSON string to a JavaScript object using `JSON.parse()`

5. A web application needs to send a JavaScript object to a server as JSON. Which method should be used?

- a) `JSON.stringify()`
- b) `JSON.parse()`
- c) `innerHTML`
- d) `querySelector()`

Answer: a) `JSON.stringify()`

11. JSON – Objects and Arrays

Direct MCQs:

1. Which of the following is valid JSON array?

- a) `[1, 2, 3]`
- b) `{ 1, 2, 3 }`
- c) `(1, 2, 3)`
- d) `1, 2, 3`

Answer: a) `[1, 2, 3]`

2. Which of the following is valid JSON object?

- a) `{ "name": "John", "age": 30 }`
- b) `{ name: John, age: 30 }`
- c) `("name": "John", "age": 30)`

d) ["name": "John", "age": 30]

Answer: a) { "name": "John", "age": 30 }

3. How do you access the first element of a JSON array named `data`?

a) `data[0]`

b) `data.get(0)`

c) `data.first()`

d) `data.item(1)`

Answer: a) `data[0]`

Scenario-Based MCQs:

4. A JSON object contains a property `users` which is an array of objects. How can you iterate through all users?

a) `for (let i=0; i<users.length; i++){ console.log(users[i]); }`

b) `console.log(users)` only

c) `users.print()`

d) `users.show()`

Answer: a) `for (let i=0; i<users.length; i++){ console.log(users[i]); }`

5. A developer wants to extract the `email` of the second user from a JSON array `users`. Which code is correct?

a) `users[1].email`

b) `users[2].email`

c) `users.email[1]`

d) `users.get(2).email`

Answer: a) `users[1].email`

12. JSON – AJAX

Direct MCQs:

1. What does AJAX stand for?

a) Asynchronous JavaScript and XML

b) Asynchronous Java and XML

c) Advanced Java and XML

d) Asynchronous JSON and XML

Answer: a) Asynchronous JavaScript and XML

2. Which object is commonly used in AJAX calls?

a) `XMLHttpRequest`

b) `JSONRequest`

c) `AjaxObject`

d) `HttpRequest`

Answer: a) `XMLHttpRequest`

3. Which method sends an AJAX request?

- a) `open ()`
- b) `send ()`
- c) `request ()`
- d) `ajax ()`

Answer: b) `send ()`

Scenario-Based MCQs:

4. A web page wants to fetch data from a server without refreshing the page. Which approach is used?

- a) AJAX with `XMLHttpRequest` or `fetch` API
- b) Reload page
- c) DOM manipulation only
- d) Local storage only

Answer: a) AJAX with `XMLHttpRequest` or `fetch` API

5. A developer receives JSON data via AJAX. How should it be processed to use in JavaScript?

- a) Directly assign to a variable
- b) Use `JSON.parse ()` to convert the string to an object
- c) Use `JSON.stringify ()`
- d) Use CSS classes

Answer: b) Use `JSON.parse ()` to convert the string to an object