JAVASCRIPT DAY 15

FAQ'S OF JS

1) What is JavaScript?

Ans: JavaScript is a high-level, interpreted programming language primarily used to create interactive effects within web browsers.

2) Is JavaScript used to implement Forms Validations?

Ans: Yes, JavaScript is commonly used for client-side form validation to ensure user inputs meet required criteria before submission.

3) What is the Extension for JavaScript files?

Ans: The extension for JavaScript files is .js.

4) How to Execute JavaScript files?

Ans: JavaScript files are executed by including them in an HTML document using the <script> tag, which the browser interprets and runs.

5) Which tag is used to include JavaScript in HTML?

Ans: The <script> tag is used to embed or reference JavaScript code within an HTML document.

6) Is JavaScript used to develop Dynamic web pages?

Ans: Yes, JavaScript enables the development of dynamic web pages by allowing content updates and interactions without requiring a page reload.

7) Explain types of web applications.

Ans: Web applications can be categorized into:

- **Static Web Applications:** Display fixed content; any changes require manual updates to the code.
- **Dynamic Web Applications:** Generate content in real-time based on user interactions or server-side data.

8) What are the differences between static and dynamic web applications?

Ans: Static Web Applications:

- Content remains constant unless manually updated.
- Faster loading times due to fixed content.
- No interaction with databases.

Dynamic Web Applications:

- Content changes based on user interactions or data.
- May have slower loading times due to content generation.
- Interact with databases to fetch and display data.

9) Write the Differences Between Programming Languages and Scripting Languages.

Ans: Programming Languages:

- Compiled before execution.
- Used for developing standalone applications.

Scripting Languages:

- Interpreted at runtime.
- Often used to automate tasks within existing applications.

10) Is JavaScript execution Synchronous?

Ans: By default, JavaScript executes code synchronously, meaning one operation completes before the next begins. However, it supports asynchronous operations using callbacks, promises, and async/await.

11) Is JavaScript an Object-Based Scripting Language?

Ans: Yes, JavaScript is object-based, utilizing objects but not enforcing object-oriented programming paradigms like class-based inheritance.

12) Write a few Predefined objects provided by JavaScript.

Ans: Some predefined objects in JavaScript include Math, Date, String, Array, and Object.

13) How to manipulate DOM Elements?

Ans: DOM elements can be manipulated using methods like getElementById, querySelector, and properties such as innerHTML and style.

14) How to debug a JavaScript application?

Ans: Debugging can be done using browser developer tools, inserting console.log statements, or using the debugger keyword to set breakpoints.

15) How to get the Current Date?

Ans: Use the Date object: const currentDate = new Date();.

16) How to display Data on a webpage?

Ans: Data can be displayed by manipulating the DOM, such as setting innerHTML of an element: document.getElementById('elementId').innerHTML = data;.

17) How to display data on the browser console?

Ans: Use console.log(data); to output data to the browser's console.

18) How to display an array as a table in the browser console?

Ans: Use console.table(array); to display array data in a table format.

19) Is JavaScript Secured?

Ans: JavaScript itself is secure, but improper coding practices can lead to vulnerabilities like Cross-Site Scripting (XSS).

20) How to View the Page Source?

Ans: Right-click on the webpage and select "View Page Source" or press Ctrl+U (Cmd+U on Mac).

21) How to open the Browser console?

Ans: Press F12 or Ctrl+Shift+I (Cmd+Option+I on Mac) and navigate to the "Console" tab.

22) Are semicolons (;) mandatory in JavaScript?

Ans: Semicolons are optional due to Automatic Semicolon Insertion (ASI), but it's recommended to use them to avoid unexpected behavior.

23) Why use Comments in JavaScript?

Ans: Comments improve code readability and help developers understand the code's purpose.

24) How many types of Comments does JavaScript support?

Ans: JavaScript supports two types of comments: single-line and multi-line.

25) Write the Syntax for Single-line Comments in JavaScript.

Ans: // This is a single-line comment

26) Write the Syntax for Multi-line Comments in JavaScript.

Ans: /* This is a multi-line comment */

27) Is JavaScript a Compiler-Based Scripting Language?

Ans: No, JavaScript is primarily interpreted, though modern engines use Just-In-Time (JIT) compilation for performance optimization.

28) Is JavaScript an Interpreter-Based Scripting Language?

Ans: Yes, JavaScript is traditionally interpreted, but modern engines incorporate JIT compilation techniques.

DAY 15 MCQS QUESTIONS WITH ANSWERS

1. What is the correct syntax to print a message in the console?

   A. **console.log("Hello World!");**
2. Which type of JavaScript language is ___?

   B. Object-Based
3. Which of the following is NOT a JavaScript data type?

   D. Character
4. Which of the following methods can be used to extract a part of a string?

   A. slice()
5. What is the correct way to declare a variable in JavaScript?

   A. var myVar;
6. How do you create a function in JavaScript?

   B. function myFunction() {}
7. How can you add a comment in JavaScript?

   D. Both B and C
8. Which symbol is used for single-line comments in JavaScript?

   B. //
9. What will the following code output: **console.log(typeof null);**

   C. object
10. Which operator is used to assign a value to a variable?

    A. =
11. How do you call a function named **myFunction**?

    B. myFunction();
12. Which keyword is used to declare a constant in JavaScript?

    D. const
13. What is the output of the following code? **console.log(2 + "2");**

    B. 22
14. Which of the following is the correct way to write an array in JavaScript?

    C. let colors = ["red", "green", "blue"];
15. What will the following code output? **console.log(0 == false);**

    A. true

16. What is the purpose of the **isNaN** function?

B. Check if a value is not a number

17. What will the following code output? **console.log(typeof NaN);**

A. number

18. What is the correct syntax for a **for** loop in JavaScript?

B. for (i=0; i<5; i++)

19. Which of the following methods is used to add an element to the end of an array?

B. push()

20. How do you check if a variable **x** is equal to 5 in both value and type?

C. x === 5

MCQS OF DAY 15th

16) How to display data on a webpage?

- **Data can be displayed on a webpage using various methods:**
- **Using the innerHTML property:**
  document.getElementById("elementId").innerHTML = "Hello World!";
- **Using document.write():**
  document.write("Hello World!");
- **By dynamically creating elements and appending them to the DOM:**
  let para = document.createElement("p");
  para.textContent = "Hello World!";
  document.body.appendChild(para);

17) How to display data on the browser console?

- Use the console.log() method:
- console.log("Hello World!");

18) How to display an array in the form of a table in the browser console?

- Use the console.table() method:
- let arr = ["Apple", "Banana", "Cherry"];
- console.table(arr);

19) Is JavaScript secured?

- JavaScript runs in the browser's sandbox environment, which restricts access to the operating system and sensitive files. However:
- JavaScript code can be viewed and modified by users, making it prone to tampering or injection attacks.
- Proper security measures, like input validation and using secure practices, are necessary to prevent vulnerabilities.

20) How to view the page source?

- Right-click on the webpage and select **"View Page Source"** (or press Ctrl+U on Windows/Linux or Command+Option+U on Mac).

21) How to open the browser console?

- Use the following shortcuts:
- **Google Chrome/Firefox:** Press Ctrl+Shift+J (Windows/Linux) or Command+Option+J (Mac).
- **Safari:** Enable the developer menu in preferences, then use Command+Option+C.

22) Are semicolons (;) mandatory in JavaScript?

- **No**, semicolons are not mandatory because JavaScript uses **automatic semicolon insertion (ASI)**. However, it is a good practice to use them to avoid unexpected behavior.

23) Why use comments in JavaScript?

- Comments are used to:
- Explain the code for better readability.
- Temporarily disable parts of code during debugging.
- Provide documentation for complex logic.

24) JavaScript supports how many types of comments?

- Two types:

1. **Single-line comments**
2. **Multi-line comments**

25) Write the syntax for single-line comments in JavaScript.

// This is a single-line comment

26) Write the syntax for multi-line comments in JavaScript.

```
/*
This is a multi-line comment.
You can write across multiple lines.
*/
```

27) Is JavaScript a compiler-based scripting language?

- **No**, JavaScript is not compiler-based. It is an **interpreter-based** language.

28) Is JavaScript an interpreter-based scripting language?

- **Yes**, JavaScript is interpreter-based. The browser's JavaScript engine interprets and executes the code.

FAQs of Day 15

1) What is a Scripting Language?

- A scripting language is a type of programming language designed to automate tasks during runtime.
- Examples: JavaScript, Python, Perl.

2) What is JavaScript?

- JavaScript is:
- A scripting language used for creating dynamic web pages.
- Used for form validation, DOM manipulation, and more.
- Object-based and interpreted by the browser.

3) Differences Between Scripting Language and Programming Language

Programming Language	Scripting Language
Used to communicate with computers	Used to automate runtime tasks
Compiler-based	Interpreter-based
Creates an .exe file	Does not create an .exe file
High maintenance cost	Low maintenance cost
Compilation is faster	Execution is slower
Examples: C, C++, Java	Examples: JavaScript, Python

4) How to include a JavaScript file?

- Use the <script> tag with the src attribute:
- <script type="text/javascript" src="message.js"></script>

5) What is DOM? What is the use of the document object?

- **DOM** stands for Document Object Model.
- Represents the structure of the HTML document.
- Enables JavaScript to access and manipulate HTML content.

Example:

- document.getElementById("elementId").textContent = "Updated text!";

6) How to write comments in JavaScript?

Two types of comments:

- **Single-line:** // comment
- **Multi-line:** /* comment */

PROGRAMING OR CODING QUESTIONS

1. Write the JavaScript program

Question:

- Store value 100 to `x` variable.
- Store value 200 to `y` variable.
- Find the addition of `x` and `y` variables and store it in `z` variable.
- Print the `z` variable.

Answer:

```
let x = 100;
let y = 200;
let z = x + y;
console.log(z);
```

2. Write the JavaScript program

Question:

- Store value 10 to `x` variable.
- Find the square of `x` variable and store the result in `y` variable.
- Print the `y` variable.

Answer:

```
let x = 10;
let y = x * x;
console.log(y);
```

3. Find the result of string concatenation

Question:

```
var firstname = "ExcelR";
var lastname = "EduTech";
var fullname = firstname + " " + lastname;
document.write(fullname);
```

Output:

ExcelR EduTech

4. Find the result using template literals

Question:

```
var sub = `fullstack`;
var msg = `welcome to ${sub}`;
document.write(msg);
```

Output:

welcome to fullstack

5. What will the following code output?

Question:

9 > 8 > 7 ? document.write("java") : document.write("dotnet");

Output:

dotnet

Reason:

9 > 8 evaluates to true (or 1), then 1 > 7 is false.

6. What will the following code output?

Question:

1 < 2 < 3 ? document.write("java") : document.write("dotnet");

Output:

java

Reason:

1 < 2 evaluates to true (or 1), then 1 < 3 is true.

7. Write a ternary operator expression

Question:

- Check if `x` is less than `y` and `y` is less than `z`.
- If true, print `"HTML"`, else print `"CSS"`.

Answer:

```
let x = 5, y = 10, z = 15;
x < y && y < z ? console.log("HTML") : console.log("CSS");
```

8. Write a ternary operator expression

Question:

- Check if a is greater than b.
- If true, print "Python", else print "Ruby".

Answer:

let a = 10, b = 5;

a > b ? console.log("Python") : console.log("Ruby");

9. Write a JavaScript program

Question:

- Find if the number 25 is divisible by 5.
- If true, print "Yes", otherwise print "No".

Answer:

```
let num = 25;
num % 5 === 0 ? console.log("Yes") : console.log("No");
```

10. Write a JavaScript program

Question:

- Check if a number num is even or odd using the ternary operator.

Answer:

```
let num = 4;
num % 2 === 0 ? console.log("Even") : console.log("Odd");
```