What is JavaScript? How is it different from Java?

Write an example of inline JS, internal <script>, and external JS usage.

What does console.log() do? How is it used for debugging?

Write single-line and multi-line comments in JS.

Declare variables using var, let, and const. Show the difference in scope.

What happens if you declare a const and try to change its value?

Identify the data types of the following:

let a = 10;

let b = "10";

let c = true;

let d = null;

let e = undefined;

let f = [1, 2, 3];

Use typeof for each.

What is the output of:

let x = 5;

x += 2;

x *= 3;

console.log(x);

Explain the difference between == and === with examples.

Predict the output:

console.log(10 == "10"); // ?

console.log(10 === "10"); // ?

Explain how &&, ||, and ! work using a real-world condition (e.g., login system).

Write a ternary condition:

If age > 18, return "Adult"

Else, return "Minor"

Write a program using if-else to check if a number is even or odd.

Write a program that checks:

If score >= 90 → "A"

If score >= 75 → "B"

If score >= 50 → "C"

Else → "Fail"

Create a switch statement to print the day of the week based on number (1-7).

Use a for loop to print numbers from 1 to 10.

Use a while loop to calculate the sum of numbers from 1 to 100.

Use a do...while loop to print the multiplication table of 7.

Write a loop that skips number 5 using continue, and stops at 8 using break.

Create a simple login system where:

username = "admin" and password = "1234"

Use if, &&, === to validate

For Loop Based Questions

1. **Print numbers from 1 to 20 using for loop**
2. **Print even numbers between 1 and 50**
3. **Find the sum of first 10 natural numbers**
4. **Print multiplication table of 5 (e.g., 5 × 1 = 5 …)**
5. **Print factorial of a number using for loop**
6. **Print reverse numbers from 100 to 1**
7. **Calculate the sum of all odd numbers from 1 to 100**
8. **Print pattern of stars using nested for loop**

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While Loop Based Questions

9. **Print numbers from 1 to 10 using while loop**
10. **Print sum of digits of a number using while loop**
11. **Count number of digits in a number**
12. **Reverse a number using while loop**
13. **Check if a number is palindrome using while loop**

Do...While Loop Based Questions

14. **Print numbers from 1 to 5 using do...while**
15. **Print the multiplication table of any number using do...while**
16. **Sum numbers from 1 to n (user input) using do...while**
17. **Keep taking input until user enters 0**

If Statement Based Questions

18. **Check if a number is positive**
19. **Check if a number is even or not**
20. **Check if character is a vowel or not**

If-Else Statement Based Questions

21. **Check whether a number is even or odd**
22. **Check if a number is divisible by 3 or not**
23. **Check if a person is eligible to vote (age ≥ 18)**
24. **Check if a number is negative, positive or zero**

If-Else-If Ladder Based Questions

25. **Assign grade based on marks**

- **Marks ≥ 90 → A**
- **80–89 → B**
- **70–79 → C**
- **below 70 → Fail**

26. **Check largest among three numbers**
27. **Categorize age group: Child, Teen, Adult, Senior**
28. **Check type of triangle: Equilateral, Isosceles, Scalene**

Switch Statement Based Questions

29. ***Simple calculator: take 2 numbers & an operator (+, –, , /)***
30. **Print day of week using switch (1=Monday, 7=Sunday)**
31. **Check vowel or consonant using switch**
32. **Menu-based program (e.g., 1: Add, 2: Subtract...) using switch**

Ternary Operator Coding Questions

1. **Check Voting Eligibility**

   Write a program to check if a person is eligible to vote (age ≥ 18) using a ternary operator.

2. **Find Maximum of Two Numbers**

   Write a program to find the greater of two numbers using a ternary operator.

3. **Check if a Number is Even or Odd**

   Use the ternary operator to determine if a given number is even or odd.

4. **Grade Assignment**

   Given a student's marks, print "Pass" if marks ≥ 40, otherwise "Fail", using a ternary operator.

5. **Check Positive, Negative, or Zero**

   Use nested ternary operators to check if a number is positive, negative, or zero.

6. **Driving Eligibility**

   Check if a user is allowed to drive based on age. Print "Can Drive" if age ≥ 18, else "Cannot Drive".

7. **Check for Leap Year (Simplified Version)**

   If a year is divisible by 4, print "Leap Year", otherwise "Not a Leap Year" (don't worry about century rule for now).

8. **Login Status**

   Given a boolean isLoggedIn, print "Welcome User" if true, otherwise "Please log in".

9. **Discount Eligibility**

If the total purchase amount is more than ₹1000, give a discount of 10%. Use ternary to print “Discount Applied” or “No Discount”.

10. **Check Divisibility**

Check if a number is divisible by both 3 and 5 using nested ternary operators.