JAVASCRIPT TEST - 1

Section A: Theory (10 Marks)

1. What is the difference between var, let, and const in JavaScript? (3 marks)
2. What is the difference between keywords and identifiers in JavaScript? Give two examples of each. (2 marks)
3. What is the purpose of the break and continue statements in loops? (3 marks)
4. Explain the difference between == and === with an example. (2 marks)

Section B: Output Questions (20 Marks)

5. console.log("10" - 2 + true * "5" + (3 + "4"));
6. console.log(false + "true" + 1 + 2 - "abc");
7. console.log(false + "true" + 1 + 2 + "abc");
8. console.log(false + "true" + 1 + 2 * "abc");
9.
```
let x = 0;
for (let i = 1; i <= 5; i++) {
  if (i % 2 === 0) {
    x += i;
  } else {
    x -= i;
  }
}
console.log(x);
```
10.
```
let arr = [2, 4, 6, 8];
for (let i = 0; i < arr.length; i++) {
  if (i % 2 === 0) {
    console.log(arr[i] * arr[i]);
  } else {
    console.log(arr[i] + arr[i - 1]);
  }
}
```

Section C: Programming Questions (70 Marks)

11. WAP to take a number from user and check if the given number is even or odd (2 marks)

12. WAP to print all elements of a given array of size n using a loop. (3 marks)

13. WAP to delete the **middle element(s)** of a given array of size n using splice. (3 marks)
    Example :
    Input: [1, 2, 3, 4, 5]
    Output: [1, 2, 4, 5]

14. WAP to find how many **positive, negative, and zero values** are present in a given array of size n. (5 marks)
    Example :
    Input: [2, -3, 0, 5, -1, 0]
    Output: Positive = 2, Negative = 2, Zero = 2

15. WAP to check if two **2D arrays of size m × n** are equal element by element. (5 marks)
    Example 1:
    Input:
    arr1 = [[1, 2, 3], [4, 5, 6]]
    arr2 = [[1, 2, 3], [4, 5, 6]]
    Output: Equal

    Example 2
    Input:
    arr1 = [[1, 2], [3, 4]]
    arr2 = [[1, 2], [4, 3]]
    Output: Not Equal

16. WAP to count how many elements are **multiples of both 2 and 3** in a given array of size n. (5 marks)
    Example :
    Input: [6, 12, 15, 20, 24]
    Output: 3

17. WAP to print the **sum of digits** of a given number. (5 marks)
    Example :
    Input: 1254
    Output: 12 (1+2+5+4)

18. WAP to count how many times a given number k appears in a given array of size n. (5 marks)
    Example :
    Input: [1, 2, 2, 3, 2, 4], k= 2
    Output: 3

19. WAP to reverse an array of size n. (don't use .reverse()) (5 marks)
    Example :
    Input: [1, 2, 2, 3, 2, 4]
    Output: [4, 2, 3, 2, 2, 1]

20. WAP to check if a given number is a **prime number** (number which is divisible by 1 and itself) or not. (5 marks)
    Example1 :
    Input: 7
    Output: Prime

    Example2 :
    Input: 12
    Output: Not Prime

21. Pattern1:(5 marks)

    1 0 1 0
    0 1 0 1
    1 0 1 0
    0 1 0 1

22. Pattern2:(5 marks)

    1
    1 2
    1 2 3
    1 2 3 4
    1 2 3 4 5

23. Pattern24:(5 marks)

    X X X X X
    X X X X
    X X X
    X X
    X

X
X X
X X X
X X X X
X X X X X

24. WAP to find the **sum of each row** of a 2D array of size `m × n`. (6 marks)
    Example :
    Input: [[1, 2, 3], [4, 5, 6]]
    Output: Row1 = 6, Row2 = 15

25. WAP to check if a given array of size `n` is sorted in **ascending order**. (6 marks)
    Example1 :
    Input: [1, 2, 3, 4]
    Output: Sorted

    Example2 :
    Input: [1, 3, 2, 4]
    Output: Not Sorted