**Question 1: Explain the different types of loops in JavaScript (for, while, do-while). Provide a basic example of each.**

**Loops in JavaScript**

Loops in JavaScript allow us to execute a block of code multiple times. There are three main types of loops:

1. for Loop – Used when the number of iterations is known.
2. while Loop – Used when the number of iterations is unknown and depends on a condition.
3. do-while Loop – Similar to while, but executes at least once before checking the condition.
4. **For Loop:**

A for loop is used when the number of iterations is known beforehand.

**Example: Print numbers 1 to 5**

for (let i = 1; i <= 5; i++) {

console.log(i);

}

1. **While Loop:**

A while loop runs as long as a condition is true.

**Example: Print numbers 1 to 5**

let i = 1;

while (i <= 5) {

console.log(i);

i++; // Increment i

}

1. **Do-While Loop:**

A do-while loop is similar to while, but it executes at least once, even if the condition is false.

**Example: Print numbers 1 to 5**

let i = 1;

do {

console.log(i);

i++; // Increment i

} while (i <= 5);

**Question 2: What is the difference between a while loop and a do-while loop?**

**Difference Between while and do-while loops in JavaScript**

Both while and do-while loops are used for iteration, but they differ in when they check the condition.

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| **Feature** | **while Loop** | **do-while Loop** |
| **Condition Check** | Checked **before** the loop executes. | Checked **after** the loop executes. |
| **Execution Guarantee** | May **never execute** if the condition is false initially. | Executes **at least once**, even if the condition is false. |
| **Use Case** | Used when the loop should only run if the condition is met initially. | Used when the loop should run **at least once**, regardless of the condition. |