

**Question 1: What is control flow in JavaScript? Explain how if-else statements work with an example.**

**Control Flow in JavaScript:**

Control flow determines the order in which code is executed in a program. JavaScript executes code line-by-line but can change this order based on conditions, loops, or function calls.

**If-Else Statements:**

- The if statement executes a block of code if a specified condition evaluates to true.
- The else block executes code if the condition is false.

**Example:**

```
let age = 18;
```

```
if (age >= 18) {  
  console.log("You are eligible to vote.");  
} else {  
  console.log("You are not eligible to vote.");  
}
```

- **Flow:**
    1. The condition `age >= 18` is evaluated.
    2. If true, the if block runs; otherwise, the else block executes.
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**Question 2: Describe how switch statements work in JavaScript. When should you use a switch statement instead of if-else?**

**Switch Statements:**

- Used to evaluate an expression and execute code based on matching case values.
- Includes a default case if no match is found.
- Syntax reduces complexity compared to multiple if-else conditions.

**Example:**

```
let day = 3;
```

```
switch (day) {  
  case 1:  
    console.log("Monday");
```

```
    break;
case 2:
    console.log("Tuesday");
    break;
case 3:
    console.log("Wednesday");
    break;
default:
    console.log("Invalid day");
}
```

- **Flow:**

1. The expression day is compared to each case.
2. When a match is found, its block executes.
3. The break statement prevents further cases from running.

#### **When to Use Switch Over If-Else:**

- When checking multiple conditions based on a single value (e.g., days, menu options).
- To improve readability and avoid deeply nested if-else structures.