

JavaScript Control Flow: A Simple Guide

Introduction

Control flow in JavaScript governs the order in which statements are executed, allowing for decision-making and repetitive actions. This guide introduces three fundamental control flow structures: `if` statements, loops (`for`), and the `switch` statement.

What is Control Flow?

Control flow refers to the order in which statements are executed in a program. It allows developers to dictate the path their code takes based on conditions and repetitions. In JavaScript, control flow is crucial for creating dynamic, responsive, and efficient programs.

1. Simple `if` Statement

`if` is used for

- checking if a value is true or false, and then execute the code block accordingly.

Example:

```
let temperature = 25;

if (temperature > 30) {
  console.log("It's a hot day!");
} else if (temperature < 10) {
  console.log("It's a cold day!");
} else {
  console.log("The weather is moderate.");
}
```

Explanation:

- The `if` statement checks the value of `temperature`.
- If `temperature` is greater than 30, it prints "It's a hot day!"
- If `temperature` is less than 10, it prints "It's a cold day!"
- If neither condition is met, it prints "The weather is moderate."

2. `for` Loop

Example:

```
for (let i = 0; i < 5; i++) {
  console.log("Count: " + (i + 1));
}
```

```
}
```

Explanation:

- The **for** loop initializes **i** to 0, continues as long as **i** is less than 5, and increments **i** after each iteration.
- It prints "Count" followed by the current value of **i + 1** in each iteration.

3. **switch** Statement

Example:

```
let day = "Friday";

switch (day) {
  case "Monday":
    console.log("It's the start of the week.");
    break;
  case "Friday":
    console.log("It's almost the weekend!");
    break;
  default:
    console.log("It's a regular day.");
}
```

Explanation:

- The **switch** statement checks the value of **day** and executes the corresponding case.
- If **day** is "Monday," it prints "It's the start of the week."
- If **day** is "Friday," it prints "It's almost the weekend!"
- If **day** doesn't match any case, it prints "It's a regular day."