Control Statements

Control statements are used to **control the flow of execution** in a program — they help JavaScript make decisions and repeat actions.

◈ 1. Conditional Statements

Used to perform **different actions** based on conditions.

✅ if Statement

Executes a block **only if** the condition is true.

```
let age = 18;

if (age >= 18) {
  console.log("You are an adult");
}
```

✅ if...else Statement

Executes one block if condition is true, otherwise another block.

```
let age = 15;

if (age >= 18) {
  console.log("You are an adult");
} else {
  console.log("You are a minor");
}
```

✅ if...else if...else Statement

Used for multiple conditions.

```
let marks = 85;

if (marks >= 90) {
  console.log("Grade A");
} else if (marks >= 75) {
  console.log("Grade B");
} else {
  console.log("Grade C");
}
```

✅ Nested if

You can also put one if inside another.

```
let username = "Raj";
```

```
let password = "1234";

if (username === "Raj") {
  if (password === "1234") {
    console.log("Login Successful");
  } else {
    console.log("Incorrect Password");
  }
}
```

✅ Switch Statement

Used when you have **many conditions** to check for the same variable.

```
let day = 3;
switch (day) {
  case 1:
    console.log("Sunday");
    break;
  case 2:
    console.log("Monday");
    break;
  case 3:
    console.log("Tuesday");
    break;
  default:
    console.log("Invalid day");
}
```

◆ 2. Looping Statements

Used to **repeat** a block of code multiple times.

✅ for Loop

Runs code a specific number of times.

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

✅ while Loop

Runs as long as the condition is true.

```
let i = 1;
while (i <= 5) {
  console.log(i);
  i++;
}
```

☑ do...while Loop

Executes **at least once**, then checks the condition.

```
let i = 1;
do {
  console.log(i);
  i++;
} while (i <= 5);
```

☑ for...of Loop

Used for arrays or strings.

```
let fruits = ["Apple", "Banana", "Mango"];
for (let fruit of fruits) {
  console.log(fruit);
}
```

☑ for...in Loop

Used for objects.

```
let student = { name: "Raj", age: 24, country: "Nepal" };

for (let key in student) {
  console.log(key + ": " + student[key]);
}
```

☑ break and continue

- `break` → exits the loop.
- `continue` → skips one iteration.

```
for (let i = 1; i <= 5; i++) {
  if (i === 3) continue;   // skip 3
  if (i === 5) break;      // stop at 5
  console.log(i);
}
```

☑ Mini Assignment (Practice)

1. Write a program that prints numbers 1 to 10 using a loop.
2. Print only **even numbers** between 1 and 20.
3. Create a program that checks grades using `if...else if`.
4. Use a `switch` to print day names (1–7).