Conditional statements

Conditional statements allows you to execute different blocks of code based on specified conditions.

1. if Statement:

The **if** statement executes a block of code if a specified condition is true.

Syntax:

```
if (condition) {
   // Code to execute if condition is true
}
```

```
let x = 10;

if (x > 0) {
  console.log("x is positive");
}
```

2. if...else Statement:

The **if...else** statement executes one block of code if a specified condition is true and another block if the condition is false.

```
if (condition) {
   // Code to execute if condition is true
} else {
   // Code to execute if condition is false
}
```

```
let x = -5;

if (x > 0) {
```

```
  console.log("x is positive");
} else {
  console.log("x is non-positive");
}
```

3)if...else if...else Statement:

The **if...else if...else** statement allows you to specify multiple conditions and execute different code blocks based on the outcome of those conditions.

```
if (condition1) {
    // Code to execute if condition1 is true
} else if (condition2) {
    // Code to execute if condition2 is true
} else {
    // Code to execute if none of the conditions are true
}
```

```
let x = -5;

if (x > 0) {
  console.log("x is positive");
} else if (x < 0) {
  console.log("x is negative");
} else {
  console.log("x is zero");
}
```

Switch statements

A switch statement in JavaScript is a control flow statement that allows you to execute a block of code among many options based on the value of an expression.

```
switch (expression) {
  case value1:
    // Code to run if expression === value1
    break;
  case value2:
    // Code to run if expression === value2
    break;
  // More cases...
  default:
    // Code to run if no case matches
}
```

Key Points

1. **Expression Evaluation**: The **expression** inside the switch statement is evaluated once.
2. **Case Matching**: The result of the expression is compared with the values specified in each **case** clause using strict equality (===).
3. **Code Execution**: If a match is found, the code block associated with that **case** is executed.
4. **Break Statement**: The **break** statement is used to terminate the switch statement. If omitted, execution will continue to the next **case** clause (fall-through behavior).

5. **Default Case**: The **default** clause is optional and executes if no matching **case** is found. It acts like the **else** in an if-else structure.

```
switch (grade) {
  case 'A': console.log('Excellent');
    break;
  case 'B':
  case 'C':console.log('Well done');
    break;
  case 'D':console.log('You passed');
 break;
  case 'F':console.log('Better try again');
    break;
  default:console.log('Invalid grade');
}
```