

Day 02: Operators & Conditional Statements

Topics Covered:

- **Operators:**
 - **Arithmetic:** `+`, `-`, `*`, `/`, `%`, `**`
 - **Comparison:** `==`, `===`, `!=`, `!==`, `>`, `<`, `>=`, `<=`
 - **Logical:** `&&` (AND), `||` (OR), `!` (NOT)
 - **Increment/Decrement:** `++`, `--`
- **Conditional Statements:**
 - `if`
 - `else if`
 - `else`

Code Examples (`index.js`):

--- Arithmetic Operators ---

```
let num1 = 15;
let num2 = 4;
console.log("Arithmetic:");
console.log("Addition:", num1 + num2);    // 19
console.log("Subtraction:", num1 - num2); // 11
console.log("Multiplication:", num1 * num2); // 60
console.log("Division:", num1 / num2);    // 3.75
console.log("Modulus (Remainder):", num1 % num2); // 3
console.log("Exponentiation (15^2):", num1 ** 2); // 225
console.log("---");
```

--- Comparison Operators ---

```
let x = 10;
let y = '10';
console.log("Comparison:");
console.log("Loose Equality (10 == '10'):", x == y);    // true
console.log("Strict Equality (10 === '10'):", x === y); // false
console.log("Not Equal (10 != '10'):", x != y);        // false
console.log("Strict Not Equal (10 !== '10'):", x !== y); // true
console.log("Greater Than (10 > 5):", x > 5);          // true
console.log("Less Than (10 < 10):", x < 10);           // false
console.log("---");
```

--- Logical Operators ---

```
let sunny = true;
let warm = false;
console.log("Logical:");
console.log("Sunny AND Warm:", sunny && warm); // false
console.log("Sunny OR Warm:", sunny || warm); // true
console.log("NOT Sunny:", !sunny); // false
console.log("---");
```

--- Increment/Decrement Operators ---

```
let counter = 5;
console.log("Increment/Decrement:");
counter++; // counter is now 6
console.log("After increment:", counter); // 6
counter--; // counter is now 5
console.log("After decrement:", counter); // 5
console.log("---");
```

--- Conditional Statements ---

```
let hour = 14; // 2 PM
console.log("Conditional Statements:");
if (hour < 12) {
    console.log("Good morning!");
} else if (hour < 18) {
    console.log("Good afternoon!");
} else {
    console.log("Good evening!");
}

let score = 85;
if (score >= 90) {
    console.log("Grade: A");
} else if (score >= 80) {
    console.log("Grade: B");
} else if (score >= 70) {
    console.log("Grade: C");
} else {
    console.log("Grade: F");
}
```

1. Even or Odd Checker:

Write a JavaScript program that takes a number (you can hardcode it for now, e.g., let num = 7;) and prints whether it's "Even" or "Odd" using the modulus operator (%) and an if/else statement.

2. Voting Eligibility Checker:

Create variables age (number) and isCitizen (boolean). Write an if/else statement that prints whether a person is "Eligible to Vote" or "Not Eligible to Vote". A person is eligible if they are 18 or older AND are a citizen.

Day 02 Project: Simple Interactive Calculator & Decision Maker

This project combines basic arithmetic operations with conditional logic to create a program that can perform calculations and make simple decisions based on user input (simulated for now, as we haven't covered actual user input yet).

Project Goal

- To demonstrate understanding of:
- Arithmetic Operators
- Comparison Operators
- Logical Operators
- if, else if, else Statements

Your Day 2 Challenges

Try each task yourself first, then unfold the Solution tab to compare

- CHALLENGE 1: Even or Odd Checker
- CHALLENGE 2: Voting Eligibility Checker

```
if (personAge >= 18 && isCitizen) { // YOUR CONDITION HERE console.log(Age ${personAge}, Citizen:
${isCitizen}. This person is Eligible to Vote.); } else { console.log(Age ${personAge},
Citizen: ${isCitizen}. This person is NOT Eligible to Vote.); }
```

- CHALLENGE 3: Simple Grade Converter Based on a score, print the corresponding letter grade (A, B, C, D, F)
A: 90-100, B: 80-89, C: 70-79, D: 60-69, F: Below 60

```
if (studentGradeScore >= 90) { // CONDITION FOR A console.log(Score ${studentGradeScore}: Grade A);
} else if (studentGradeScore >= 80) { // CONDITION FOR B console.log(Score ${studentGradeScore}:
Grade B); } else if (studentGradeScore >= 70) { // CONDITION FOR C console.log(Score
${studentGradeScore}: Grade C); } else if (studentGradeScore >= 60) { // CONDITION FOR D
console.log(Score ${studentGradeScore}: Grade D); } else { console.log(Score
${studentGradeScore}: Grade F); }
```