

## **Today, we'll learn about:**

1. Introduction to JavaScript
2. Data Types
3. Operators

### **Introduction to JavaScript:**

JavaScript is like a magic paintbox!

Imagine you have a canvas (web page), and you want to make it interactive. JavaScript helps you add colors (functions), shapes (elements), and movements (animations) to make it come alive!

### **Data Types**

Data types are like toy blocks!

We have different blocks (data types) to build our JavaScript creations:

1. String (Words): "Hello, friend!"
2. Number (Counting): 1, 2, 3
3. Boolean (True/False): Yes/No
4. Null (Empty): No value
5. Undefined (Mystery): Unknown value
6. Object (Toy box): Stores many values
7. Array (Toy collection): List of values

### **Operators**

Operators are like action buttons!

We use operators to play with our data blocks:

#### **Arithmetic Operators**

1. - (Add):  $2 + 2 = 4$
2. - (Subtract):  $4 - 2 = 2$
3. - (Multiply):  $2 * 3 = 6$
4. / (Divide):  $6 / 2 = 3$

#### **Comparison Operators**

1. == (Equal):  $2 == 2$  (True)
2. != (Not Equal):  $2 != 3$  (True)

3. > (Greater):  $3 > 2$  (True)
4. < (Less):  $2 < 3$  (True)

## Logical Operators

1. && (And):  $\text{True} \ \&\& \ \text{True} = \text{True}$
2. || (Or):  $\text{True} \ || \ \text{False} = \text{True}$
3. ! (Not):  $!\text{True} = \text{False}$

Some examples:

```
// String
let name = "John";
console.log(name);
```

```
// Number
let age = 5;
console.log(age);
```

```
// Arithmetic
let sum = 2 + 3;
console.log(sum);
```

```
// Comparison
let isEqual = 2 == 2;
console.log(isEqual);
```

## Practice Sets:

1. Create a variable favoriteFood with a string value.
2. Calculate the sum of  $5 + 2$  using arithmetic operators.
3. Compare  $3 > 2$  using comparison operators.

## Variables, Conditional Statements, and Loops

### Variables

Variables are like labeled toy boxes!

We store values in variables using the assignment operator (=):

```
let toyBox = "Blocks";
const friendName = "Emma";
```

## **Variable Types**

1. let (Changeable)
2. const (Unchangeable)

## **Conditional Statements**

Conditional statements are like decision trees!

We use if-else statements to make choices:

```
let weather = "Sunny";  
if (weather === "Sunny") {  
  console.log("Let's play outside!");  
} else {  
  console.log("Let's play inside!");  
}
```

## **Conditional Operators**

1. if
2. else
3. else if

## **Loops**

Loops are like merry-go-rounds!

We use loops to repeat actions:

```
for (let i = 0; i < 5; i++) {  
  console.log("Whee!");  
}
```

## **Loop Types**

1. for
2. while
3. do-while

## **Some examples:**

```
// Variables  
let favoriteColor = "Blue";
```

```
console.log(favoriteColor);

// Conditional Statement
let age = 12;
if (age >= 12) {
  console.log("You're a teenager!");
} else {
  console.log("You're a kid!");
}

// Loop
for (let i = 0; i < 3; i++) {
  console.log("Hello, friend!");
}
```

**Practice Sets:**

1. Create a variable favoriteAnimal with a string value.
2. Write an if-else statement to check if a number is even or odd.
3. Use a for loop to print numbers from 1 to 5.