

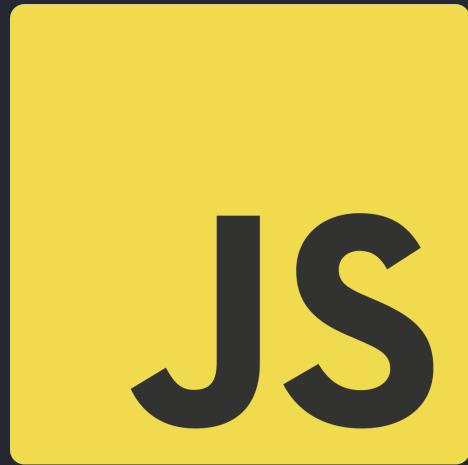


# IT In-House Internship 2023

## Day 3: Basics of JavaScript



by **Pramod Garhwal**



# JavaScript

The Language That Powers the Web

# What is JavaScript?

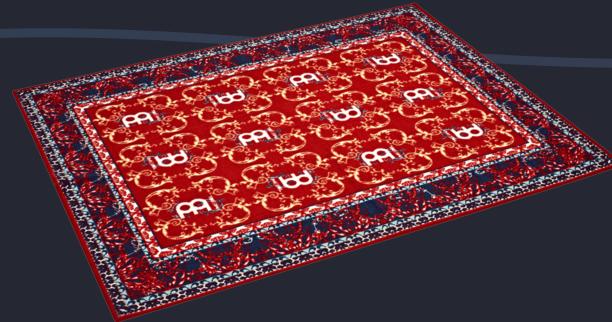
JavaScript is a powerful programming language that enables dynamic functionality and interactivity on web pages. It allows developers to create interactive features and enhance the user experience.



# What the World Looks Like Without JS

Imagine a world without JavaScript. Static web pages, no dynamic content, and limited user interaction. JavaScript is essential for creating engaging and interactive web experiences.

# Java vs JavaScript



## Car Vs. Carpet

Despite their similar names, Java and JavaScript are actually quite different. While Java is a general-purpose programming language, JavaScript is specifically designed to run within web browsers, bringing interactivity to websites.

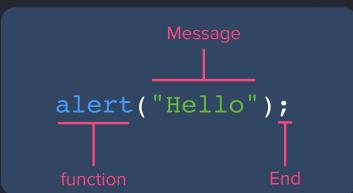
# Interpreted vs Compiled Languages

| Interpreted Languages                 | Compiled Languages                            |
|---------------------------------------|---|
| Executed line by line at runtime      | Translated into machine code before execution |
| Flexible and easy to debug            | Offers faster performance                     |
| No need for separate compilation step | Requires compilation step before execution    |
| JavaScript                            | Java  |
| python                                | C/C++   |

Each approach has its own strengths and trade-offs.

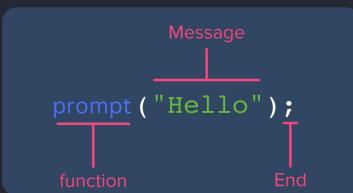


# JS Keywords



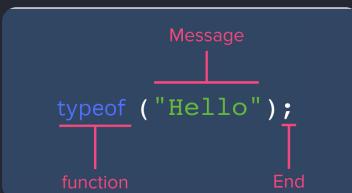
## alert

The `alert` keyword displays a pop-up message to the user



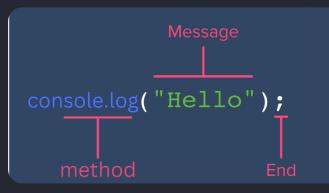
## prompt

`prompt` allows you to get input from the user



## typeof

The `typeof` keyword is used to determine the data type of a value



## console.log

The `console.log` is used to output message to the browser console

# Data Types in JavaScript

- Number
- Strings
- Boolean
- Arrays
- Objects



# Variables in JavaScript

Keyword

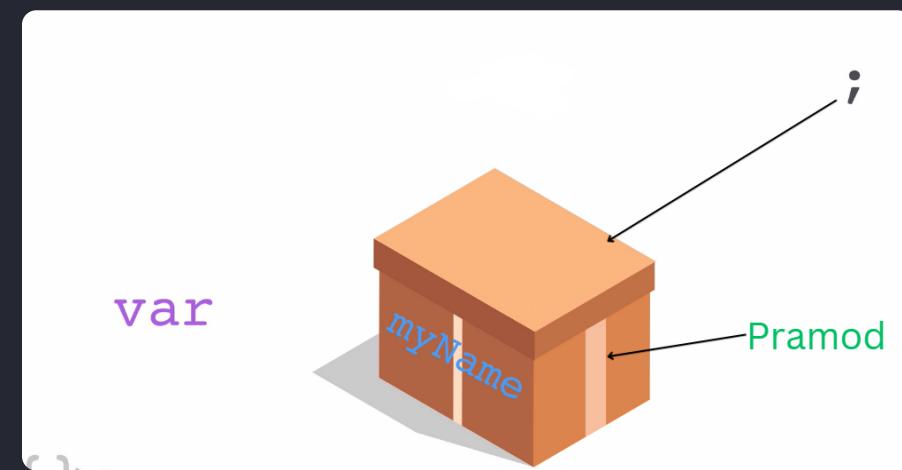


```
var myName = " Pramod ";
```

Name

Value

Variables are used to store and manipulate data in JavaScript. They provide a way to dynamically store values and use them later in the program. Let's dive into the world of variables!



# Declaring Variables

## 1. **Var**

```
var a = 10; (value can be changed later ,Global scope)
```

## 2. **let**

```
let b = 15; (value can be changed later , block scope )
```

## 3. **const**

```
const c = 20; (value can NOT be changed later , block scope )
```

# Adding Javascript to HTML Page

- writing JS inside Script tag

```
<script>  
//Javascript Code  
</script>
```

- Adding src attribute into the script tag

```
<script src="main.js"></script>
```

# JavaScript Operators

JavaScript provides a wide range of operators for performing various operations, such as arithmetic, arithmetic, comparison, logical, and assignment.

## 1 Arithmetic Operators

Arithmetic operators perform mathematical calculations. They include addition (+), addition (+), subtraction (-), multiplication (\*), division (/), and more.

## 2 Comparison Operators

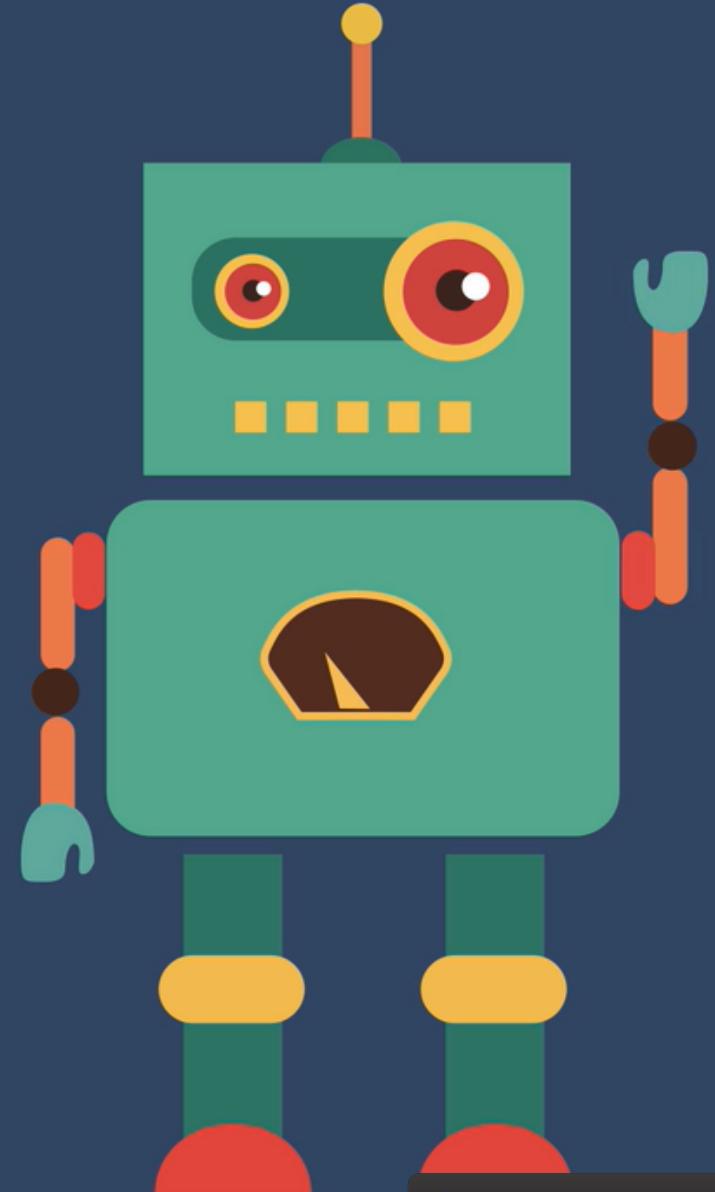
Comparison operators compare two values and return a boolean result. Examples Examples include equal to (==), not equal to (!=), greater than (>), and less than (<).

## 3 Logical Operators

Logical operators are used to combine multiple conditions. The common logical logical operators are AND (&&), OR (||), and NOT (!).

# Functions in JavaScript

Functions in JavaScript provide a way to organize and reuse code. They allow you to define a block of code, give it a name, and execute it whenever necessary.



# function

```
{  
    alert("leaveHouse");  
    alert("moveRight");  
    alert("moveRight");  
    alert("moveUp");  
    alert("moveUp");  
    alert("moveUp");  
    alert("moveUp");  
    alert("moveUp");  
    alert("moveRight");  
    alert("moveRight");  
    alert("buyMilk");  
    alert("moveLeft");  
    alert("moveLeft");  
    alert("moveDown");  
    alert("moveDown");  
    alert("moveDown");  
    alert("moveDown");  
    alert("moveLeft");  
    alert("moveLeft");  
    alert("enterHouse");  
}
```

```
function getMilk( ) {  
    alert("leaveHouse");  
    alert("moveRight");  
    alert("moveRight");  
    alert("moveUp");  
    alert("moveUp");  
    alert("moveUp");  
    alert("moveUp");  
    alert("moveRight");  
    alert("moveRight");  
    alert("buyMilk");  
    alert("moveLeft");  
    alert("moveLeft");  
    alert("moveDown");  
    alert("moveDown");  
    alert("moveDown");  
    alert("moveDown");  
    alert("moveLeft");  
    alert("moveLeft");  
    alert("enterHouse");  
}
```

Creating the function

```
function getMilk( ) { }
```

```
    alert leaveHouse  
    alert moveRight  
    alert moveRight  
    alert moveUp  
    alert moveUp  
    alert moveUp  
    alert moveUp  
    alert moveRight  
    alert moveRight  
    alert buyMilk  
    alert moveLeft  
    alert moveLeft  
    alert moveDown  
    alert moveDown  
    alert moveDown  
    alert moveLeft  
    alert moveLeft  
    alert enterHouse
```

Calling the function

```
getMilk();
```

# DOM (Document Object Model)

The Document Object Model represents the structure of a web page and enables JavaScript to interact with HTML elements. It allows dynamic updates, event handling, and content manipulation.

# Thank You!

Team IMS 😊