JavaScript

**JavaScript Basics**

Day 1 :

1. **What is JavaScript? Purpose and usage ?**

* JavaScript is a **programming language** primarily used for creating interactive and dynamic content on websites.
* It is a lightweight, high-level, and versatile language supported by all major web browsers.

**Purpose of JavaScript:**Enhancing User Interactivity - validation, drop-down menus,

**Dynamic Content -** real-time without reloading the page

Control of Multimedia - Handles audio, video, and animations

Client-Side Processing - Reduces server load by processing data ->

**Usage of JavaScript** : Web - Front , Back-End

Mobile App - React Native

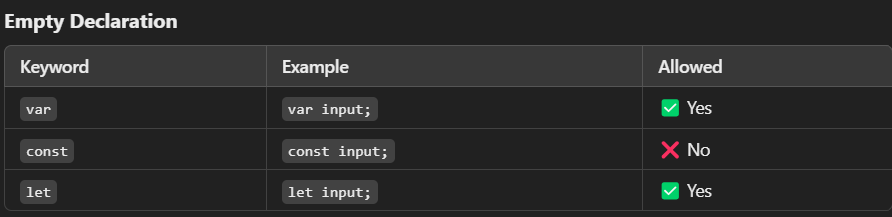
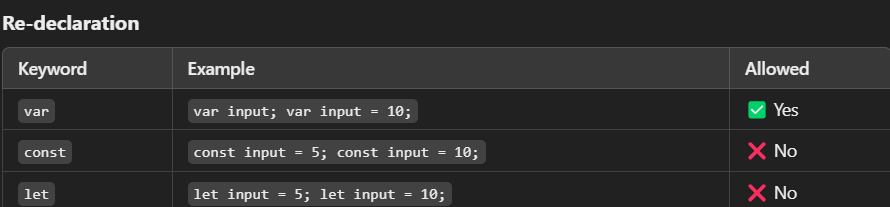
Game Development - browser-based games using libraries like Phaser

1. **Setting Up the JavaScript Environment**

Browser Console : inspect

Code Editor : install node local and extension

1. **Variables: var, let, const**

#### **Scope Examples**

**Var (Function Scoped)**

var input=5;

if (true) {

var input = 15; // Redefines the same variable

console.log(input); // 15

}console.log(input); // 15

**Const(Block Scoped)**

const input = 5;

if (true) {

const input = 15; // Creates a new variable within the block

console.log(input); // 15

}

console.log(input); // 5

**Let (Block Scoped)**

let input = 5;if (true) {

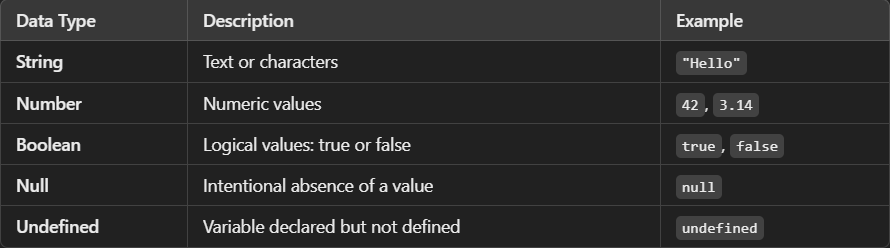
let input = 15; // Creates a new variable within the block

console.log(input); // 15

}console.log(input); // 5



**4.Data Types: string, number, boolean, null, undefined.**



### Key Differences

* **letand var** allow reassignment with any data type.
* const requires an initial value and cannot be reassigned.

All variable declaration types (var, let, const) can store any data type in JavaScript. The choice depends on scope, reassignment, and coding style.

**Operators: Arithmetic, Assignment, Comparison, Logical.**

