Variables in JS

🟩 A variable is the name of the memory location where data is stored.

🔶 How to create a variable?

<scope statement> <variable-name> = <value>

Example:

```
var x;
let city;
const y; // ❌ Invalid without assignment
```

🔄 Comparison: var vs let vs const

✅ 1. Redeclaration

- 🟥 var: ✅ Allowed
- 🟩 let: ❌ Not allowed
- 🟩 const: ❌ Not allowed

🔁 2. Reassignment

- 🟥 `var`: ✅ Allowed
- 🟩 `let`: ✅ Allowed
- 🟥 `const`: ❌ Not allowed

📦 3. Scope

- 🟥 `var`: Function scope
- 🟩 `let`: Block scope (`{}`)
- 🟩 `const`: Block scope (`{}`)

⛔ 4. Hoisting

- 🟥 `var`: ✅ Hoisted and initialized as `undefined`
- 🟩 `let`: ✅ Hoisted but not initialized
- 🟩 `const`: ✅ Hoisted but not initialized

JavaScript Execution

Who can execute JS instructions?

1. Browser

2. NodeJS

Functions in JS

> A function is a block that contains a set of instructions to perform an action.

🔶 Function Syntax

```
function <fnName>() {
    // function body
}
```

🔁 Reuse Code

> Use functions to reuse the logic.

Example:

```
function dev(x, y) {
    return x + y;
}
console.log(dev(10, 20)); // Output: 30
```

Function Input: Parameters vs Arguments

- Parameters are variables without scope statements (used to hold input).

- Arguments are actual input values (passed during function call).