JavaScript Day 1 Notes – Variables and Data Storage

1. Declaring Variables in JavaScript

In JavaScript, we use variables to store information like numbers, words, or anything we need.

Three Ways to Declare a Variable:

1. **const** → Fixed values that **cannot** be changed.
2. **let** → Changeable values (Recommended for most cases).
3. **var** → Changeable but **not recommended** due to scope issues.

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2. Examples and Explanation

(A) const – Fixed Value (Cannot Change)

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const accountId = 1223;

- const is like a **Roll Number** in a school. Once assigned, it **cannot** be changed.
- If you try to change it, JavaScript will give an **error**.

(B) let – Changeable Value (Recommended)

js

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let accountEmail = "pranay@21";

accountEmail = "pranayjha@21";

- let is like a **nickname**. You can change it whenever you want.
- It **does not create scope problems** like var.
- That's why **we use let instead of var** in modern JavaScript.

(C) var – Changeable but Problematic

js

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var accountPassword = "1234";

accountPassword = "212121";

- var is **old-school JavaScript**. It works like let, but it has a **scope problem**.

- Example Problem: If one user changes their password, it might affect others.
- **That's why we avoid var and use let.**

(D) Declaring Without let, var, or const (Not Recommended)

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accountCity = "Jaipur";

- If you declare a variable **without let or const**, JavaScript still accepts it.
- But this is **bad practice** because it makes debugging harder.

(E) Undefined Values

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let accountState;

console.log(accountState); // Output: undefined

- If you declare a variable **without giving a value**, JavaScript will return undefined.
- Think of it like a **blank form field** that has not been filled yet.

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3. Avoid Using var (Important!)

- var has **issues with block scope and function scope**.
- It can create unexpected bugs, so we **prefer let or const.**

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4. Printing Multiple Values (Using console.table())

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console.table([accountId, accountEmail, accountPassword, accountCity, accountState]);

- This prints all values in a table format, making them **easy to read.**

Summary:

✅ **Use const** when the value should never change.
✅ **Use let** when the value can change (Recommended).

❌ **Avoid var** because it can create problems.

⚠ **If a variable has no value, it is undefined.**