

# JS - Variables

```
//variables
```

```
//What is variable - Variable in programming is a named storage location that holds a value or data. These values can change during the execution of a program, hence
```

```
/*
Types of variables in JS
1. Automatic
2. var
3. let
4. const
*/
```

```
//1. automatic
language = "JavaScript" // declaring the variable name(language) and assigning value(Javascript) to it
language = "HTML" // this will reassign the value(HTML) in the existed variable(language)
```

```
//2. let - Block scope
let age = 56 // declaring the variable name(age) and assigning value(56) to it
age = 'CSS3' // this will reassign the value(CSS3) in the existed variable(age)
```

```
//3. const - Block scope
const nation = "India" // declaring the variable name(nation) and assigning value(India) to it
```

```
//4. var - Global scope
var backend = "Node" // declaring the variable name(backend) and assigning value(Node) to it
backend = "Django" // this will reassign the value(backend) in the existing variable(backend)
var backend = "Express" // this will re-declare the variable name(backend) and assign the value(Express) to it. confusing right 🤔 so don't use it 🙅
```

| Feature                      | `var`                                | `let`                             | `const`                                       |
|------------------------------|--------------------------------------|-----------------------------------|---|
| **Scope**                    | Function or global scope             | Block scope (within `{}`)         | Block scope (within `{}`)                     |
| **Hoisting**                 | Hoisted (initialized as `undefined`) | Hoisted (not initialized)         | Hoisted (not initialized)                     |
| **Re-declaration**           | Allowed in the same scope            | Not allowed in the same scope     | Not allowed in the same scope                 |
| **Re-assignment**            | Allowed                              | Allowed                           | Not allowed                                   |
| **Initialization**           | Can be declared without initializing | Must be initialized before use    | Must be initialized during declaration        |
| **Global Object Property**   | Yes (if declared in global scope)    | No (if declared in global scope)  | No (if declared in global scope)              |
| **Temporal Dead Zone (TDZ)** | Yes (before declaration)             | Yes (before initialization)       | Yes (before initialization)                   |
| **Usage**                    | Used in older code or global scope   | Used in modern code (block scope) | Used for constants (values that don't change) |