



# var, let, and const in JavaScript: Full Breakdown

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## 1 Declaration

- **var** ☒ Allows declaration.
- **let** ☒ Allows declaration.
- **const** ☒ Allows declaration.

```
var a;  
let b;  
const c = 5; // const must be initialized during declaration
```

### ! Note:

- **const** **MUST** be initialized at the time of declaration.
- **var** and **let** can be declared without assigning a value.

## 2 Initialization (Assigning value for the first time)

- **var** ☒ Can be initialized during or after declaration.
- **let** ☒ Can be initialized during or after declaration.
- **const** ☒ Must be initialized **immediately** during declaration.

```
var a;  
a = 10;  
  
let b;  
b = 20;  
  
const c = 30; // Must initialize here
```

## 3 Assignment (Changing the value)

- **var** ☒ Reassignment allowed.
- **let** ☒ Reassignment allowed.
- **const** ☒ Reassignment **NOT** allowed.

```
var a = 5;  
a = 15; // ☒ allowed  
  
let b = 10;
```

```
b = 20; // ☒ allowed

const c = 25;
c = 35; // ☒ TypeError: Assignment to constant variable
```

#### 4 Redeclaration (Declaring the same variable again in the same scope)

- **var** ☒ Redeclaration allowed.
- **let** ☒ Redeclaration NOT allowed.
- **const** ☒ Redeclaration NOT allowed.

```
var a = 10;
var a = 20; // ☒ allowed





let b = 15;
let b = 25; // ☒ SyntaxError: Identifier 'b' has already been declared

const c = 30;
const c = 40; // ☒ SyntaxError: Identifier 'c' has already been declared
```

### Quick Summary Table

Feature	var	let	const
Declaration	<input checked="" type="checkbox"/> Allowed	<input checked="" type="checkbox"/> Allowed	<input checked="" type="checkbox"/> Allowed
Initialization	Optional	Optional	Mandatory
Reassignment	<input checked="" type="checkbox"/> Allowed	<input checked="" type="checkbox"/> Allowed	<input checked="" type="checkbox"/> Not allowed
Redeclaration	<input checked="" type="checkbox"/> Allowed	<input checked="" type="checkbox"/> Not allowed	<input checked="" type="checkbox"/> Not allowed

### Best Practices

-  Always use **const** by default unless you know you'll need to reassign.
-  Use **let** when reassignment is necessary.
-  Avoid **var** — it can cause unexpected issues because of **function scope** and **hoisting** behavior.
-  Declare variables at the top of their scope to **minimize the Temporal Dead Zone** with **let** and **const**.