perplexity

whats let, var, const in js and let vs const vs var, which isnt used

In JavaScript, **let**, **const**, and **var** are all ways to declare variables, but they have important differences:

What is `var`?

- The oldest way to declare variables in JS (introduced in 1995).
- **Function-scoped**: If declared inside a function, it's accessible anywhere in that function. If outside, it's global.
- **Hoisted**: Moved to the top of their function/script scope and initialized with `undefined` (so you can reference them before they're declared, but get `undefined`).
- Can be **re-declared and re-assigned** in the same scope.
- **Not block-scoped**: Ignores `{}` boundaries like in `if`, `for`, and `while` blocks, which can lead to bugs.

What is `let`?

- Introduced in ES6 (2015) as a safer, more modern way to declare variables.
- **Block-scoped**: Only accessible within the nearest pair of `{}` (block), such as in loops, conditionals, etc.
- **Hoisted but not initialized**: If used before declaration, throws an error due to the "Temporal Dead Zone."
- Can be **re-assigned** but **cannot be re-declared** in the same scope.

What is `const`?

- Also introduced in ES6.
- **Block-scoped** like `let`.
- Must be **assigned a value at declaration**, and **cannot be re-assigned**.
- The binding is constant, but for arrays or objects, their contents *can* change (the reference can't).

let vs var vs const – Key Differences

Feature	var	let	const
Scope	Function	Block	Block
Hoisted	Yes (undefined)	Yes (TDZ)	Yes (TDZ)
Re-declaration	Yes	No	No
Re-assignment	Yes	Yes	No
Must initialize	No	No	Yes

Which isn't used anymore?

- `var` is **rarely used in modern JavaScript**. It's considered outdated and unsafe due to scope and hoisting issues.
- **Use `let` for variables whose values will change.**
- **Use `const` for values you do not want to reassign** (this is best practice for most modern JS code).

Summary:

- `let` and `const` are the standards in modern JavaScript.
- **Avoid** `var` except for maintaining or understanding old code. Use `let` for mutability; prefer `const` by default.