

# What is a **Temporal Dead Zone?**



# Are **let & const** declarations **hoisted?**

yes

let and const declarations are very different as compared to var declarations.

in the temporal dead zone



# SyntaxError vs. ReferenceError vs. TypeError ?



# let & const in JS 🔥 Temporal Dead Zone || Namaste JavaScript Ep. 8



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undefined index.js:1

>

index.js — helloworld

JS index.js JS let-const.js index.html

```
js > JS index.js
1 console.log(a);
2 let a = 10;
3 var b = 100;
4
```



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Uncaught ReferenceError: Cannot access 'a' before initialization  
at index.js:1

Temporal dead zone is the Time after the declaration of let and before assigning the value

index.js — helloworld

JS index.js JS let-const.js index.html

```
js > JS index.js
1 console.log(a);
2 let a = 10;
3 var b = 100;
4
```



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Paused in debugger

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Elements Console Sources

index.js

```
1  
2 let a = 10;  
3 console.log(a);  
4 var b = 100;  
5
```

Cannot access let before declaration  
Because its memory is provided outside the global that is in script

{ } Line 4, Column 13 Coverage: n/a

Paused on breakpoint

Call Stack

(anonymous) index.js:2

Breakpoints

index.js:2 let a = 10;  
index.js:37  
index.js:40

Scope Watch

Script

a: undefined

Global

undefined

Window

addEventListener: f addEven...  
alert: f alert()  
atob: f atob()  
b: undefined  
blur: f blur()  
btoa: f btoa()


Console What's New

top

index.js — helloworld

JS index.js JS let-const.js index.html

```
js > JS index.js  
1  
2 let a = 10;  
3 console.log(a);  
4 var b = 100;  
5
```



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Uncaught ReferenceError: Cannot access 'a' before initialization at index.js:1

> I

index.js — helloworld

JS index.js JS let-const.js index.html

```
js > JS index.js
1 console.log(a);
2
3 let a = 10;
4
5 var b = 100;
6
```



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Uncaught ReferenceError: x is not defined index.js:1  
at index.js:1

>

index.js — helloworld

JS index.js JS let-const.js index.html

```
js > JS index.js
1 console.log(x);
2
3 let a = 10;
4
5 var b = 100;
6
```





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```
> window.b
< 100

> window.a;
< undefined

> window.x;
< undefined

>
```

index.js — helloworld

JS index.js x JS let-const.js <> index.html

```
js > JS index.js
1
2
3   let a = 10;
4   console.log(a);
5   var b = 100;
6
```



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# Namaste 🙏 JavaScript

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Uncaught SyntaxError: Identifier 'a' has already been declared index.js:5

>

index.js — helloworld

JS index.js JS let-const.js index.html

```
js > JS index.js
1
2
3   let a = 10;
4
5   let a = 100;
6
```



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# Namaste 🙏 JavaScript

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Uncaught SyntaxError: Identifier 'a' has already been declared index.js:5

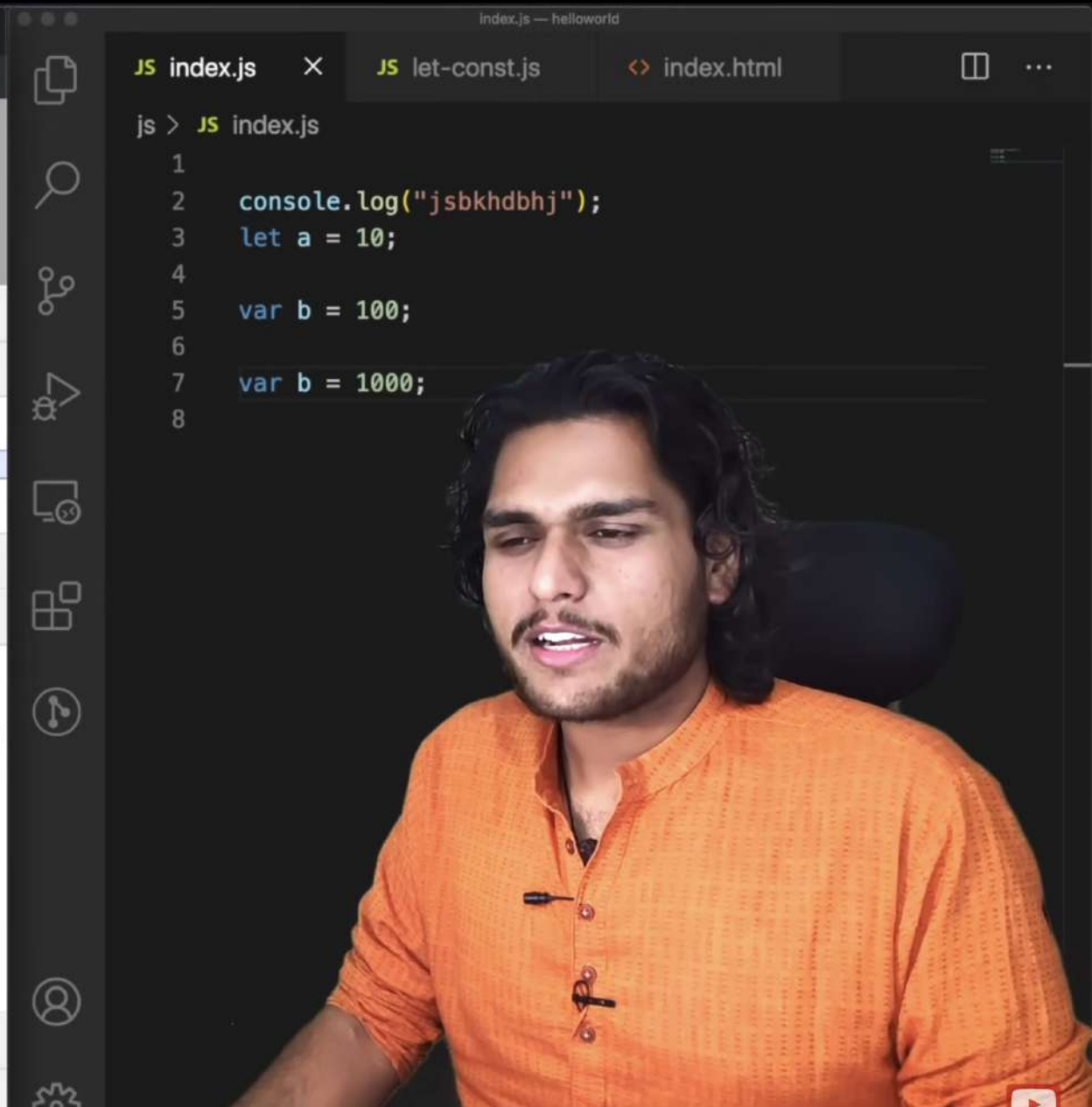
>

index.js — helloworld

JS index.js JS let-const.js index.html

```
js > JS index.js
1
2 console.log("jsbkhdhbj");
3 let a = 10;
4
5 var a = 100;
6
```







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# Namaste 🙏 JavaScript

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Uncaught SyntaxError: Missing initializer in const declaration index.js:4

>

index.js — helloworld

JS index.js JS let-const.js index.html

```
js > JS index.js
1
2   let a;
3
4   const b;
5
6   b = 1000;
7
8   a=10;
9   console.log(a);
10
```



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✖ Uncaught TypeError: Assignment to constant variable. index.js:6  
at index.js:6  
(anonymous) @ index.js:6

> Assigning constant to a variable

index.js — helloworld

JS index.js JS let-const.js index.html

```
js > JS index.js
1
2   let a = 1900;
3
4   const b = 1000;
5   |
6
7   a=10;
8   console.log(a);
9
```

# Namaste 🙏 JavaScript

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Uncaught SyntaxError: Missing initializer in `index.js:4`  
`const` declaration

## Things learned:

1. `let` and `const` are hoisted but its memory is allocated at other place than window which cannot be accessed before initialisation.
2. Temporal Dead Zone exists until variable is declared and assigned a value.
3. `window.variable` OR `this.variable` will not give value of variable defined using `let` or `const`.
4. We cannot redeclare the same variable with `let/const`(even with using `var` the second time).
5. `const` variable declaration and initialisation must be done on the same line.
6. There are three types of error: [1] `referenceError` {given where variable does not have memory allocation} [2] `TypeError` {given when we change type that is not supposed to be changed} [3] `SyntaxError` {when proper syntax(way of writing a statement) is not used}.
7. Use `const` wherever possible followed by `let`, Use `var` as little as possible(only if you have to). It helps avoid error.
8. Initialising variables at the top is good idea, helps shrinks TDZ to zero.

