



# 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 var 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
- PERSISTENT: 1
- TEMPORARY: 0
- 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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Uncaught SyntaxError: Identifier 'a' has already been declared index.js:5

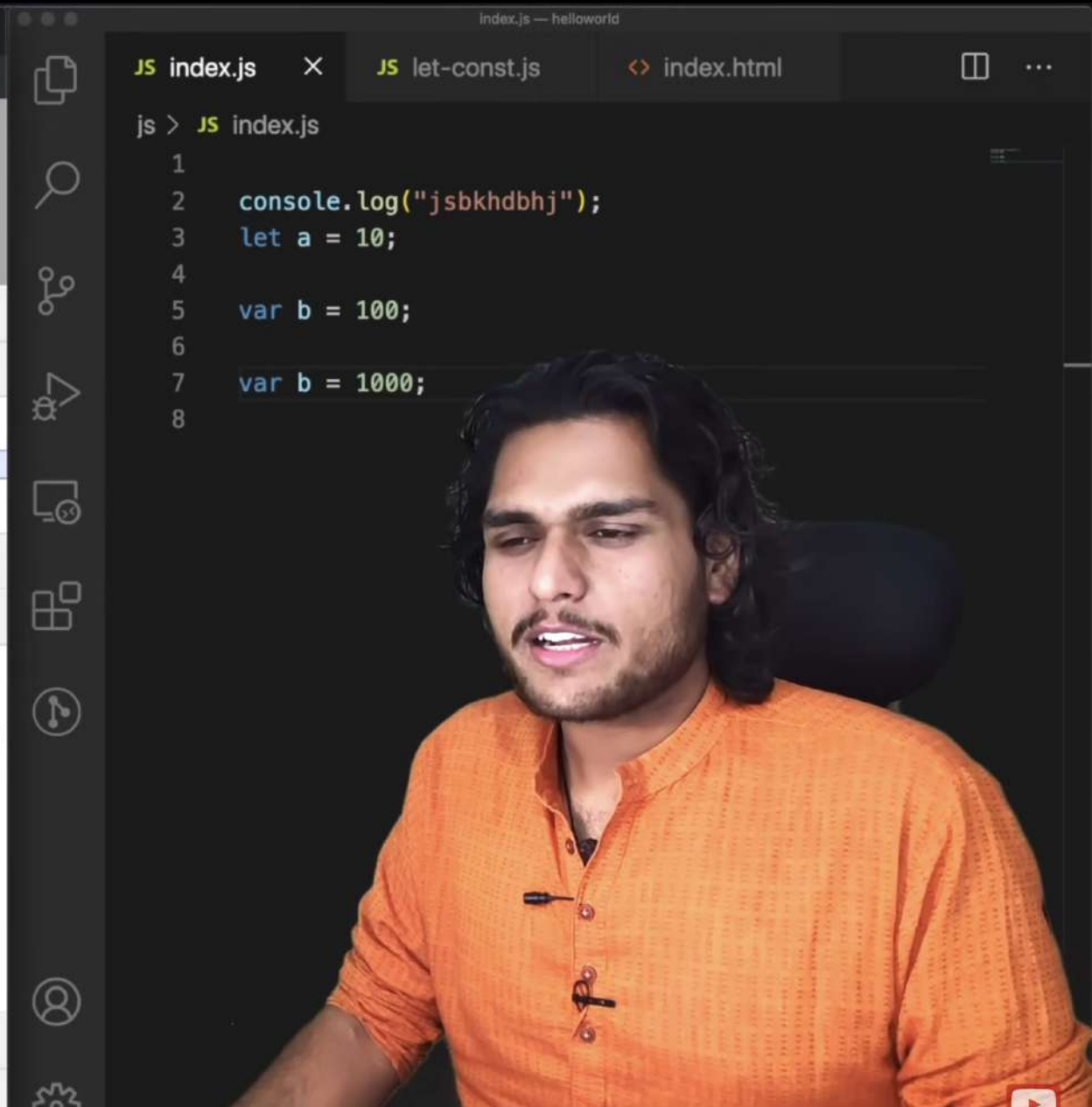
>

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   b=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.

