

# UNDERSTANDING SCOPE

## IN THIS LESSON

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Global scope

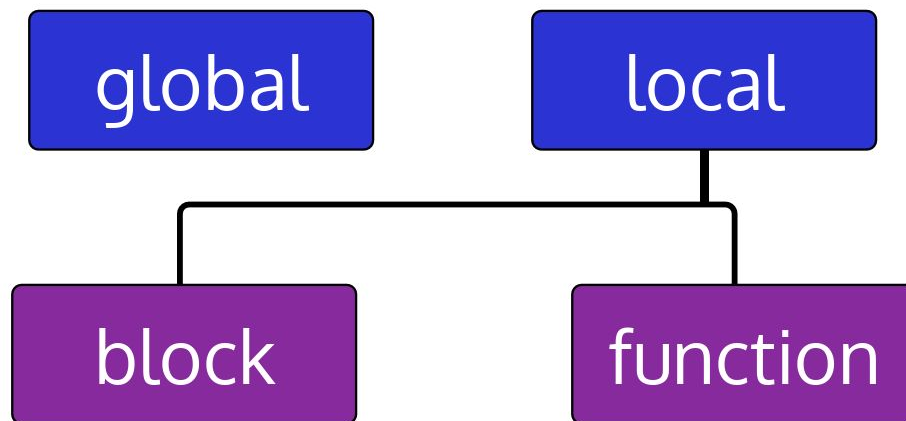
Function scope

## WHAT IS SCOPE?

Scope is the context, or region of code, in which a variable exists and can be accessed

JavaScript has **lexical scope** - scope of a variable depends where it was declared

## TYPES OF SCOPE



## BLOCK SCOPE

Variables declared using **let** and **const** possess **block scope**

They are only accessible within the code block in which they were declared, as well as any child blocks

**Code block:** Any set of statements executed as part of a **function** definition, **if** or **switch** statement, **while** or **do ... while** loop, etc  
- basically any set of statements typically contained within curly braces  
{ ... }



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```
> if (true) {  
    let testVar = 1;  
}
```

```
< undefined
```

```
> console.log(testVar);
```

```
✖ ▶ Uncaught ReferenceError: testVar is not defined  
    at <anonymous>:1:13
```

```
>
```



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```
> if (true) {  
  let testVar = 1;  
  if (true) {  
    console.log(testVar);  
  }  
}
```

1

&lt; undefined

```
> if (true) {  
  if (true) {  
    let testVar = 1;  
  }  
  console.log(testVar);  
}
```

✖ ▶ Uncaught ReferenceError: testVar is not defined  
at <anonymous>:5:17

&gt;



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```
> if (true) {  
  let testVar = 1;  
  if (true) {  
    let testVar = 2;  
    console.log('In the child block, testVar is', testVar);  
  }  
  console.log('In the parent block, testVar is', testVar);  
}
```

In the child block, testVar is 2

In the parent block, testVar is 1

← undefined

>



## GLOBAL SCOPE

Variables declared outside of any code block have global scope: They are available everywhere

Best practice: Declare variables where they will be used with local scope

Avoid using global scope as much as possible for most variables, can lead to confusion and bugs from globals being modified

Hard-coded constants that will not be assigned dynamically, and will be used in multiple places within the code, are often set as globals

## FUNCTION SCOPE

Local scope - similar to block scope but only applies to function blocks

Block scope is used by variables declared with **let** and **const** keywords

Function scope is used by variables declared with pre-ES6 **var** keyword



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```
> if (true) {  
    var testVar = 1;  
}
```

```
< undefined
```

```
> console.log(testVar);
```

```
1
```

```
< undefined
```

```
> function testFn() {  
    var anotherTestVar = 2;  
}
```

```
< undefined
```

```
> console.log(anotherTestVar);
```

```
✖ ▶ Uncaught ReferenceError: anotherTestVar is not defined  
    at <anonymous>:1:13
```

```
>
```