Cheatsheets / **Learn JavaScript**

Scope defines the positions in the program where a particular variable can be accessed.

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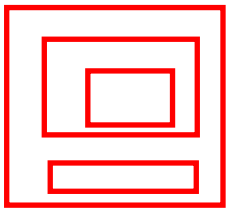
Scope



Global Scope -> Global variables
Block Scope -> Local variables

The Block Scope of JS is a powerful tool to precisely define the scope of variables

Scope

Scope is a concept that refers to where values and functions can be accessed.
Various scopes include:

- *Global* scope (a value/function in the global scope can be used anywhere in the entire program)
- *File* or *module* scope (the value/function can only be accessed from within the file)
- *Function* scope (only visible within the function),
- *Code block* scope (only visible within a `{ ... }` codeblock)

```
function myFunction() {

  var pizzaName = "Volvo";
  // Code here can use pizzaName

}

// Code here can't use pizzaName
```

Block Scoped Variables

`const` and `let` are *block scoped* variables, meaning they are only accessible in their block or nested blocks. In the given code block, trying to print the `statusMessage` using the `console.log()` method will result in a `ReferenceError`. It is accessible only inside that `if` block.

```
const isLoggedIn = true;

if (isLoggedIn == true) {
  const statusMessage = 'User is logged
in.';
}

console.log(statusMessage);

// Uncaught ReferenceError:
statusMessage is not defined
```

Global Variables

JavaScript variables that are declared outside of blocks or functions can exist in the *global scope*, which means they are accessible throughout a program. Variables declared outside of smaller block or function scopes are accessible inside those smaller scopes.

Note: It is best practice to keep global variables to a minimum.

Scope pollution: Too many global variables
=> name clashes, eg. between global and local variables
Global variables introduce the possibility of "side effects", functions that alters the value of a global variable, though it is not its main function.

Solution: TIGHT COUPLING (of variables and functions that deal with them

```
// Variable declared globally
const color = 'blue';

function printColor() {
  console.log(color);
}

printColor(); // Prints: blue
```

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In JavaScript, variables with the same name can be specified at multiple layers of nested scope. In such case local variables gain priority over global variables. If you declare a local variable and a global variable with the same name, the local variable will take precedence when you use it inside a function