Lec3

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Agenda

- Objects
- This
- Strict mode
- Shallow & deep copy
- Math function
- For in
- DOM & BOM intro

Global Scope:

- The **global scope** refers to variables that are defined outside of any function or block.
- These variables can be accessed from anywhere in the code.

```
var globalVar = 10;
function exampleFunction() {
console.log(globalVar);
}
exampleFunction(); // Outputs: 10
```

Local Scope (Function Scope):

- Variables defined inside a function have **local scope**, which means they are only accessible within that function.
- They cannot be accessed from outside the function.

```
function exampleFunction() {
var localVar = 20;
console.log(localVar);
}
exampleFunction(); // Outputs: 20
```

Block Scope (let and const):

Variables declared with let and const have block scope, meaning they are only accessible within the block (curly braces) they are defined in.

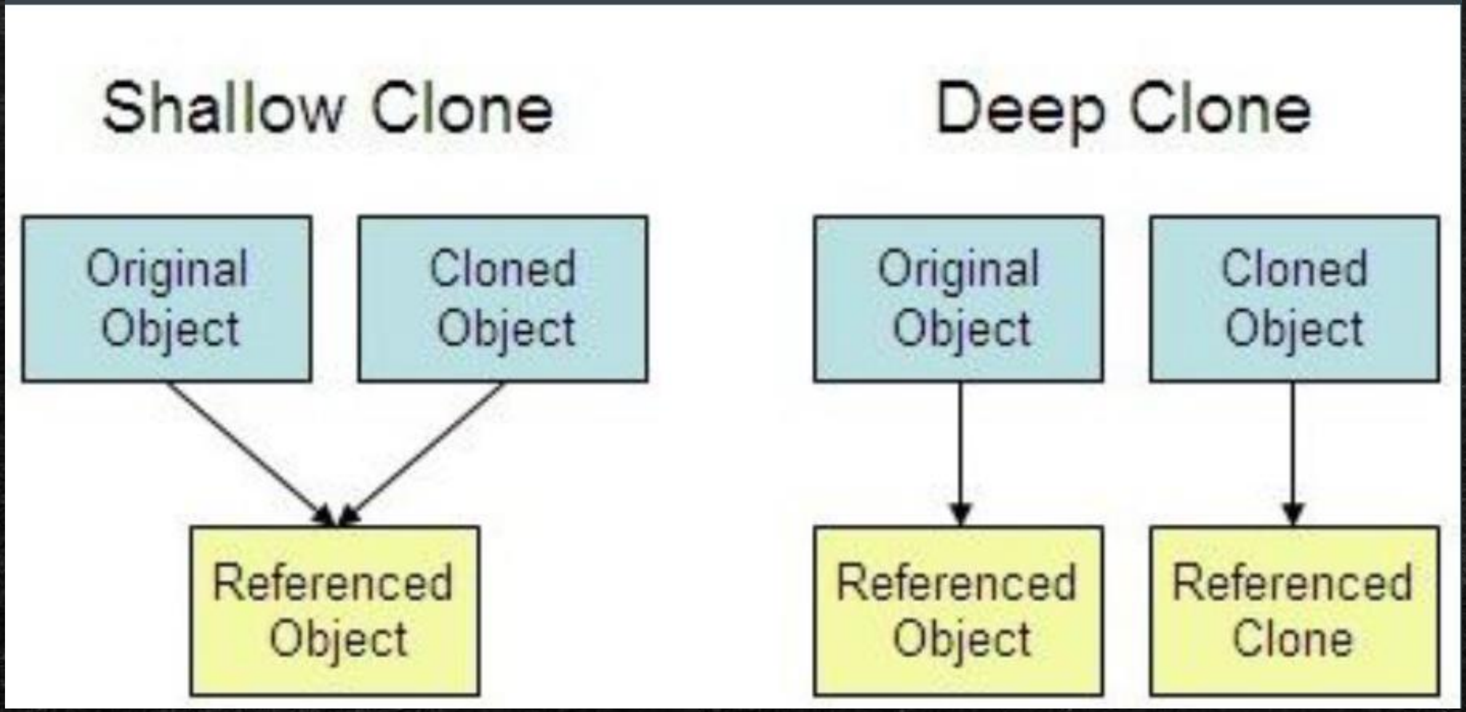
```
if (true) {
 let blockVar = 30;
const anotherBlockVar = 40;
 }
console.log(blockVar); // Throws an error
console.log(anotherBlockVar); // Throws an error
```

Function Expressions and IIFE (Immediately Invoked Function Expression)

- An **IIFE** is a function expression that is immediately executed.
- This can be used to create a private scope and avoid polluting the global scope.

```
(function() {
var privateVar = "This is private";
 console.log(privateVar); })();
 console.log(privateVar); // Throws an error
```

Shallow & deep copy



Problem1

- Create a function that generates a random number between (1-6) and returns it
- Ask the user if he want to generate a random number or not, if he clicks ok, call the function and display the number to the user.
- Keep asking the user if he wants to generate a random number or not until he clicks cancel

Problem2

- Create a function that accepts an array of strings as a parameter
- The function should return a new array (it should NOT modify the original array)
- The new array returned should have the same elements as the original array but
- each element is lowerCased

Problem3

- Questions and answers can be stored in objects, and the game can display questions, receive user input, and provide feedback.

Problem4

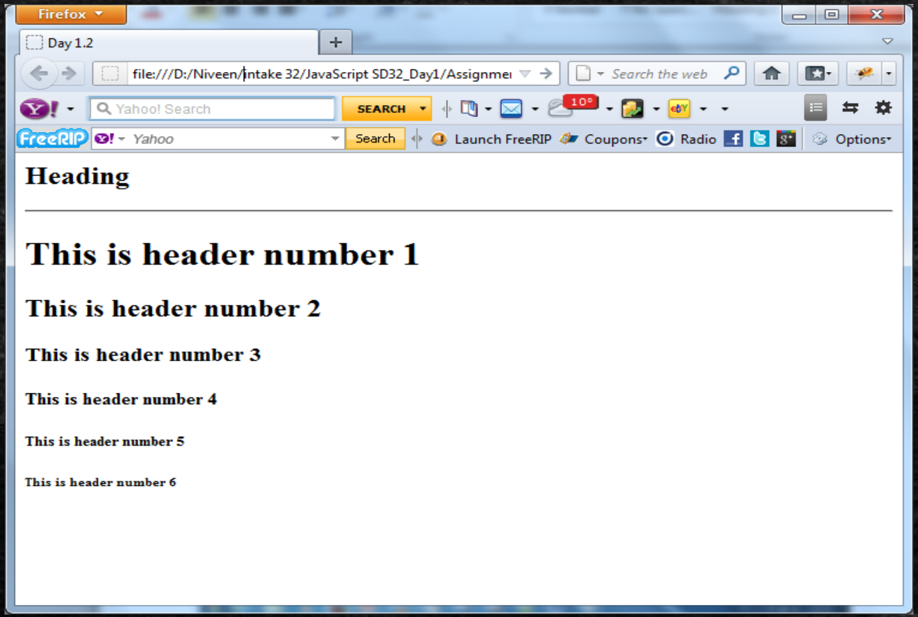
create a simple to-do list manager using objects.

Each to-do item could be represented as an object with properties like title, dueDate, and completed.

Implement functions to add, and mark tasks as completed.

Problem5

- Ask the user to enter a message then display it using the different html heading tags (from <h1> to <h6>) using Loops. DO NOT write the header element explicitly in your script!
- 1.2.



Heading

This is header number 1

This is header number 2

This is header number 3

This is header number 4

This is header number 5

This is header number 6

Refs

https://www.freecodecamp.org/news/javascript-assigning-values-vs-assigning-references/

Reference Vs Value - Most People Don't Understand This (webdevsimplified.com)