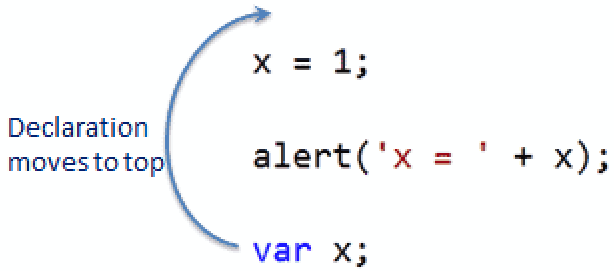
#javascript : JavaScript Interview Question for beginners !!!
What is hoisting in JavaScript?



```
x = 1;

alert('x = ' + x);

var x;
```

There are 3 types of hoisting in JavaScript:
1) Variable hoisting
2) Function hoisting
3) Class hoisting

I will try to explain the concept using variable hoisting.

Now, among variable hoisting, we have 2 different behavior for
* var keyword
* let and const keywords

First let's discuss var keyword:

```
console.log(num); // 'undefined'
var num; // Declaration
```

What is happening in the above code?
We are getting undefined in the output, even before we have declared variable num. and interesting thing is we have not even initialized the num variable.

Why do we see the output as undefined?
When this undefined value is assigned to num by the javascript engine?

🟢 The answer is during memory creation phase of execution context, javascript engine moves the variable declaration to the top of the their scope. This process is called hoisting.

It means before execution of the code, the javascript engine is moving the variable declarations to the top of the scope.

Now during memory creation, we also know that variables declared by var keywords are also initialized by undefined value in it, So we see undefined value in the output of above code.

Now it is clear that due to the above process, which is called as hoisting, we can access var num, even before the line we have declared it.

Now let's discuss let Keyword:

```
console.log(num); // Throws ReferenceError
let num = 6; // Declaration and initialization
```

It's interesting to see a reference error now.

We already know that all variable declarations are moved to the top of the scope in the script by the hoisting process.

The let keyword is also hoisted in the above code.

Now the difference from var keyword is that, in the let keyword, variables are not initialized with a default value.

So in the above case, reference error is thrown, because a variable declared with let or const is read before it is initialized.

So there is a specific time period between hoisting of let keywords and until it is initialized in the code, this time zone is called a temporal dead zone.

Reference:
https://developer.mozilla.org/en-US/docs/Glossary/Hoisting

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