

# JavaScript Fundamentals

“Hoisting”



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**Hoisting** in **JavaScript** is a behavior in which a function or a variable can be used before **declaration**

:

```
// using test before declaring  
console.log(test);  
// undefined  
var test;
```



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### Variable Hoisting

In terms of variables and constants  
keyword **var** is **hoisted**  
and **let** and **const** does **not allow hoisting**

```
// program to display value  
a = 5;  
console.log(a);  
var a; // 5
```



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In the previous example  
variable **a** is used before declaring it  
And the program works and displays the output **5**

The program behaves as

```
// program to display value  
var a;  
a = 5;  
console.log(a); // 5
```



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However in JavaScript  
initializations are **not hoisted**

Input

```
// program to display value  
console.log(a);  
var a = 5;
```

Output

undefined



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Input

Output

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## Let

If a variable is used with the **let** keyword  
that variable is **not hoisted**  
because the variable must be declared first

### Input

```
// program to display value  
a = 5;  
console.log(a);  
let a; // error
```

### Output

```
Uncaught ReferenceError: Cannot access 'a' before initialization
```



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## Function Hoisting

A **function** can be called before declaring

### Input

```
// program to print the text  
greet();  
  
function greet() {  
    console.log('Hi, there.');}
```

### Output

Hi, there



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However, when a **function** is used as an **expression** an **error** occurs because only declarations are hoisted

#### Input

```
// program to print the text  
greet();  
  
let greet = function() {  
  console.log('Hi, there.');
```

#### Output

```
Uncaught ReferenceError: greet is not defined
```

If we use **Var** Instead using **Let** an **error** accurs

#### Output

```
Uncaught TypeError: greet is not a function
```



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