



# JS-ASSIGNMENT-FOUR



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## Variables & Data Types

### *1. What is the difference between var, let, and const?*

#### **var:**

Var ek variable hai jis se hm value ko declare, reassign or hoisting karsakte hai JavaScript me.

```
var name="Sameer Ahmed Shah";
```

```
console.log(name);
```

#### **Const:**

Const ek variable hai jis hm na to value ko declare, reassign, hoisting nahi karsakte hai JavaScript me. Bs ye const value function kay tor per use hoga.

```
const myname="Sameer Ahmed Shah";
```

```
console.log(name);
```

#### **Let:**

Let ek variable hai jis se hm value ko reassign karsakte hai or declare, hoisting nahi karsakte hai JavaScript me value ko.

```
let myfullname="Sameer Ahmed Shah";
```

```
console.log(name);
```

### *2. What are the basic data types in JavaScript? (e.g., string, number, boolean) Give examples.*

There are 8 datatypes used in JavaScript

1. Boolean
2. String
3. Number
4. Object
5. Null
6. Undefined
7. Symbol
8. Big Int

#### **Boolean:**

Is datatype me hm basically two possible values ko use karte hai true or false. Is datatype ko hm is waqt use karte hai jese agar ye value sahi hai to true kardo agar value galat ho to false kardo.

```
var x = true;
```

```
var y = false;
```

### String:

Is datatype me hm value ko quotes (" ") form me likhte hai jis ko JavaScript me string kaha jata hai.

```
var name="Sameer Ahmed Shah";
```

```
console.log(name);
```

### Number:

Is datatype me hm number ko likhte hai or console karwate hai JavaScript me. Ye datatype number likhne kay lie use ki jate hai

```
var num = 6
```

```
console.log(6);
```

### Object:

Is datatype me hm multiple values ko store karsakte hai ek key data form ki sorat me. Is datatype me hm jo bhi multiple values ko store kare gae us ko hm apne hisab se access karsakte hai, Object properties ko likha jata hai curly bracket ki sorat me or sath comma dia jata hai. To is tarah se hamare data values store hoge.

```
var obj = {name: "Sameer", age=27, education: "MBA", profession: "banker", Learning: "Full Stack Web Development"};
```

```
console.log(obj)
```

### Null:

Is datatype me hm kisi variable me agar koi value pass nahi karte hai to wo us waqt tak blank rehte hai jab tak hm us me value declare na karde. Is ko null datatype kaha jata hai. But Is me variable kay sath null likhe gae to wo datatype null consider ki jae gi.

```
var x = null;
```

```
console.log(x);
```

### Undefined:

Is datatype me hm koi bhi variable me value declared nhi karte hai JavaScript me. Jis variable me value declared na ki jaye wo undefined datatype kehlae gi.

```
var x = "undefined";
```

```
console.log(x);
```

### Symbol:

Ye datatype string number or big int se thori different hai bs is ki jo bhi value console hokar aye gi wo symbol kay sath likhe hoge is ki ye uniqueness hai warna kam wohi same hai other datatype like number, string.

```
symbol();
```

### Big Int:

Is datatype me hm large data value ko store karte hai JavaScript me. Is datatype se hm kisi bhi large amount of data value store kar sakte hai or easily access hojate hai ye value.

```
var x = BigInt("12345678");
```

```
console.log(x);
```

### ***3. How do you check if a variable is undefined?***

Jis variable me value declared na ki jaye wo undefined datatype kehlae gi. Is ko typeof function ky through call kar sakte hm data type check karne ky lie.

```
var x = "undefined";
```

```
console.log(x);
```

```
typeof(x);
```

## Operators

### ***1. What is the difference between == and ===?***

==	===
This is equal to	This is equal to and equal type
Is me agar koi value equal to ho wo true me ajae gi even agar string me bhi koi number same ho to wo equal to me hi count ki jae gi.	Is me agar koi value equal to ho wo true me ajae gi even agar string me bhi koi number same ho to wo equal to me ni count ki jae gi.
x == 8, value of x is 8, true found	x === 8, value of x is 8, true found
x == "8", value of x is 8, true found	x === "8", value of x is 8, false found because this operator consider 8 as a string not number

### ***2. How do increment (++) and decrement (--) operators work?***

Increment (++) and decrement (--) operators work in JS to increase and decrease value by one. In this operator, we have post increment decrement factor and pre increment decrement factor.

```
let x = 5;
```

```
x++;
```

```
console.log(x);
```

**Answer: 6**

```
let x = 5;
```

```
x--;
```

```
console.log(x);
```

**Answer: 4**

Post Increment	Post Decrement
<b>x++, Use x, then x + 1</b>	<b>x--, Use x, then x - 1</b>
Pre Increment	Pre Decrement
<b>++x, x + 1, then use x</b>	<b>--x, x - 1, then use x</b>

```
var r = 3;
```

```
var y = 5;
```

```
var z = r++ + --r - y++ + --r + ++r - --y ;
```

```
console.log(z);
```

```
var x = 10;
```

```
var w = 12;
```

```
var y = x++ + --x + --w + --x - w++ + w-- + ++x ;
```

```
console.log(y)
```

## Functions

***1. Write a function that adds two numbers.***

```
function addNumbers(x, y) {  
    console.log(x + y)  
}
```

```
addNumbers(10, 5);
```

or

```
var addNumbers = (x, y) => {  
  console.log("x + y");  
}
```

```
addNumbers(10, 5);
```

## 2. What are parameters and return values in functions?

```
function count(word) {  
  console.log(word.length)  
}
```

This is a parameter, ye ek esa placeholder hai jab hm function ko call karte whe value ko pass karte hai. .

Is function me koi return function use nhi hua hai because is me sirf console use hua hai take value console me show hoksake.

```
var hname = (name) => {  
  return "My name is " + name;  
}  
console.log(hname("Sameer Ahmed Shah"));
```

Is function me return function use hua hai. Jis me parameter ko return kia gia hai or end me parameter ko value di gae hai function ko call karte whe return ka main kam ye hai ky wo value to return karta hai.

## 3. Write an example of an arrow function.

### Arrow Function

Arrow function hm es6 me use karte hai JavaScript kay ye basically function use kia jata hai kisi bhi chez ko call karne kay lie. Arrow function is tarah likha jata hai.

```
var myname = (name) => {  
    console.log("Sameer Ahmed Shah");  
}  
myname();
```

## DOM

### 1. What does document.getElementById() do?

Ye JavaScript me esa function hai jo HTML documents ky kisi bhi element ko uski ID ky zarie access karne ky lie use hota hai. Jese mere HTML me heading one me koi paragraph likha gia hoga or mujhe us paragraph ko JavaScript me access karna hai to hm ye function use kare gae document.getElementById(). Or agar HTML ky kisi element ko JavaScript me call kare gae to hame us element ko hame ID dena zarori hai otherwise function use nhi hoga.

#### JS Function:

```
document.getElementById("idname");
```

#### Example:

##### HTML

```
<h1 id = "js">Sameer Ahmed</h1>
```

##### JS

```
document.getElementById("js");
```

Chale aye is HTML docs ko hmne JS me call to karlia hai or is me kuch changing karte hai using JS usky paragraph me.

```
let change = document.getElementById("js");
```

```
change.innerHTML = " Sameer Ahmed is a person";
```

#### Note:

**Inner HTML:** Is element ke andar jo likha hua hai, usy le ao ya usay badal do.

Change is element.

### 2. How do you show an alert when a button is clicked using JavaScript?

Jab me kisi web page me button per click karo is ky zarie ek alert box ban jaye or alert de site pr is question me hm se yehi banane ko kaha gia hai. To phle hum HTML docs me button ka tag



banae gae then us me onclick event ka attribute degae then JS me us event ko access karke alert box banade gae.

## **HTML**

```
<button onclick = " alertbox()">Sameer Ahmed</ button>
```

## **JS**

```
function alertbox() {  
    alert("No, my name is Sameer Ahmed Shah");  
}
```

**Inline Agr use kare hm to is tarah hoge**

```
<button onclick="alert('No, my name is Sameer Ahmed Shah')">Sameer Ahmed</button>
```

## **OBJECT**

### **1. Create an object with name, age, and city properties.**

```
let student = {  
    name: "Sameer",  
    class: "Full Stack Web Development",  
    ID: 001  
};
```

### **2. How do you access a specific value from an object?**

```
console.log(student["ID"]);
```

**or**

```
console.log(student.name);
```