**JAVASCRIPT - Types**

**7- Types:**

**typeof()**

typeof 5

or

typeof(5)

1. numbers
2. booleans : true /false
3. strings
4. undefined : no definition
5. null : no value
6. Symbol :Symbol(‘just me’) -> to identify/working with objects properties
7. arrays []

objects {}

function a(){

return 5

}

**a.hi = ‘hihihihi’;**

console.log(a.hi)

functions()

**Objects {}**

**Arrays [] Functions ()**

**Array.isArray() :** to identify whether variable is array

const num=5;

num.**toString();**

**Array.isArray([]);**

**Pass by reference and pass by value:**

Let a=[1,2,3,4,5] ; b= a; **b.push(10);** // a will change

To have a separate copy:

Concat: b = **[].concat(a);** for array cloning

Object.assign:obj2 = **Object.assign({},obj1)**

**shallow / first layer cloning**

Spread operator:obj2= **{…obj1}**

JSON : (not good) obj2 = **JSON.parse(JSON.stringify(obj1)); deep clone -Clones at all level**

**Compare two objects with same data :**

**JSON.stringify(ob1) == JSON.stringify(ob2); // but not for data with functions and DOM**

**Object.toString(ob1) == Object.toString(ob2)**

*Note:*

Let a= 1;

Change=(val) =>{

a=val; **// a value changes**

}

Change(2);

Console.log(a)

o/p

2

let a={

name:'obja',

}

let b={

name:'objb',

}

change = (a,b) =>{**// a does not change**

a=b;

}

Change(a,b)

let a={

name:'obja',

}

let b={

name:'objb',

}

change = (b) =>{ **// a changes to b**

a=b;

}

Change(b);

**Object.is(Nan,Nan)**

**Object.is(-0,+0)**

**Type Coercion: (==)** converting from one type to another type

1 = =‘1’ ->true 1 = = = ‘1’ ->false //check but don’t coerce

false == "" // t false == [] // t

false == {} // t "" == 0 // t

"" == [] // t "" == {} // f

0 == [] // t 0 == {} // f

0 == null // f

If(1) js coerces as if(true) if(0) js coerces as if(false)

-0 === +0 -> true Object.is(-0,+0) -> false

Nan === Nan -> false Object.is(Nan,Nan) -> true

**Dynamic and static & Strongly and Weakly typed language :**

**JS**

**Dynamically typed language**

Flexible

Faster

**Weakly typed language:**

**Statically typed language**

Less bugs

Auto completion

Easy documentation

Helpful

**Type Script**

Static typing

Super script of js

When project grows larger