

## DAY 14

## JavaScript

including External JS file

console.log

info

warn

error

user input

Alert

confirm

variables, keywords (var, let, const)

JS statements and semicolons

comments

difference between Expression &amp; Statement

Arithmetic operators

Increment

Decrement

## DAY 15

primitive Data types in JS

1. Numbers
2. String
3. Boolean
4. Null
5. Undefined
6. Symbol
7. BigInt

Reference Data types

1. object
2. Array

Some important values in JavaScript

1. undefined
2. null
3. NaN
4. Infinity

## Basic operators in js

1. Arithmetic operators (+, -, \*, /, %, ++, --)
2. Assignment operators (=, +=, -=, \*=, /=, %=)
3. Comparison operators (==, ===, !=, !==, >, <, >=, <=)
4. Logical operators (&&, ||, !)

## variable Hoisting (IMP)

IF-else Statement

Ternary operator

## loops

1. for
2. while
3. Do while

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## Revision & function in JS

## DAY 17

### 1. working with strings in JS

1. slice()
2. Template String
3. split()
4. replace()
5. includes()

### 2. conditions

IF-else, (sub part)

switch case

### 3. loops

three main loops

4. For Each loop (for Array)
5. For...in loop (for object)
6. for...of loop (for iterables)



#### 4. Functions in JavaScript

1. Regular Function

2. Arrow Function

3. Immediately Invoked Function Expression

4. Higher-order Function

(IIFE)

In lecture

1) Function Statement

```
function abc(c)
```

```
{
```

```
// Function Statement
```

```
}
```

2) Function Expression

```
var abc = function()
```

```
{
```

```
// Function Expression
```

```
}
```

3) Anonymous Function

```
function()
```

```
{
```

```
// Anonymous Function
```

```
}
```

4) Fat Arrow Function

```
(c) =>
```

```
{
```

```
// Fat Arrow Function
```

```
}
```

5) Fat Arrow with one Parameter

```
let abc = (c) =>
```

```
{
```

```
}
```

```
abc(12);
```

6) Fat Arrow with implicit return

```
var abc = (c) => "meet";
```

```
var ans = abc(12);
```



# DAY 18

## Rest Parameters

```
function abc(a, b, c, ...chacha)
{
}
abc(1, 2, 3, 4, 5);
```

Output: a:1  
b:2  
c:3  
chacha = [4, 5]

## Variable Hoisting

IIFE :- immediately invoked function expression

```
(function abc()
{
  console.log("Hey");
})()
Output: Hey
```

→ So, what the difference between IIFE and Regular function?

→ But in this IIFE function created variable are local behind the brackets of func we can't use this variables can not expose this variables and can not update on console.

## HOFs - Higher order function <sup>takes</sup> returns (both)

→ such a function that <sup>takes</sup> returns another function or function accept the another function in parameters or may be both.

```
function abc()
{
  return function()
  {
    console.log("HOFs");
  }
}
```

we can, var ans = abc();  
ans();



Ex-2 Function abcd ( fnc )

```
{
```

```
  fnc ();
```

```
}
```

```
abcd ( function() {
```

```
  console.log ( "HofS" );
```

```
});
```

CB fnc - call back function

→ when we call any function and in argument we sent another function this is called cb fnc.

```
function abcd ( val )
```

```
{
```

```
  // And this Hof fnc
```

```
}
```

```
abcd ( function() {
```

```
  // call back function
```

```
});
```

first class fnc

→ first class fnc is an credit in JS and JS give this credit to fnc. and this credit says, treat a function as a value. and every function can called first class function.

Pure function

A function without side effects mean does not modify external state. ( global values ) it's called Pure function.

```
function add ( a, b )
```

```
{
```

```
  return a + b ;
```

```
}
```

```
console.log ( add ( 2, 3 ) );
```

## Impure function

→ This func totally different from pure func.

```
let total = 0;
```

```
function addTotal(a)
```

```
{
```

```
  total += a;
```

```
}
```

```
addTotal(5);
```

```
console.log(total); // 5
```

## closure - closure order func

This concept is concept that says when function return another function and returned func can use their parent func's data, variables, members it's called closure.

```
function abcde()
```

```
{
```

```
  var a = 12;
```

```
  return function() {
```

```
    {
```

```
      console.log(a);
```

```
    }
```

```
  }
```

```
var cns = abcde();
```

```
cns();
```

## Scoping & closures in JavaScript



DAY 20

## Arrays and objects

### Arrays :-

A collection of multiple values with similar data type.

Ex:- `var A = [12, 13, 14];`

But in JavaScript we can store multiple data types of value and multiple values. it not homogeneous

Ex:- `var arr = ["a", 12, function() { }, { }, [], null, undefined];`

### object :-

object is one type of way to hold key value pairs.

And when you want to store the info of one entity.

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## practice session -1

DAY 22

### map

→ when we need to run loop at any Array and add element in new array then we use map.

Ex:- map give an blank array.

`var arr = [1, 2, 3, 4];`

`arr.map(function(value)`

`{`

`return 1;`

`})`

output:- 1 1 1 1

→ map can return



## forEach

→ when we need to operation in any array.  
then we can use of forEach

→ forEach can not return.

```
Ex:- var arr = [1, 2, 3, 4];
      arr.forEach(function(value) {
        console.log(value);
      });
```

## filter

→ filter work as it as map but filter return only two values true and false (Boolean) and filter also create blank array.

```
Ex:- var arr = [1, 2, 3, 4];
      arr.filter(function(value) {
        return true;
      });
```

Output = 1, 2, 3, 4

Diagram:   
 - "return true;" is connected to the output "1, 2, 3, 4".   
 - "return false;" is connected to "array blank" (underlined).   
 - "value 2" is connected to "array blank".   
 - "value 3, 4" is connected to "array blank".

## reduce

→ map return multiple value, filter can return two boolean values and reduce can return only one value.

```
Ex:- var arr = [1, 2, 3, 4];
      arr.reduce(function(accumulator, key) {
        return accumulator + key;
      }, 0);
```

Diagram:   
 - "accumulator" is connected to "accumulator starting value".   
 - "key" is connected to "array value".

Output :- 10