

Javascript =

Data types are inferred in JS . They are number,string , boolean , object, undefined .
Let and const , typeof .

JS has class and object . Object Oriented Script !!!

JS String operations =

String is a class . string is a primitive also .

let str = "hello" // the **type** of str is primitive **string**

let s = new String("hello") //the **type** of s is **object** of String

==	tries to convert both the operands to primitive type and then compare the content
===	First checks the type of both the operands . If not same , evaluates as false If type is same then --compares content for primitive and -- compares addresses for object
valueOf()	Instance method of String class . It returns primitive string value of object string

```
let s1= new String("1")
let x = 1
if( s1 == x)
    console.log("same")
else
    console.log("different")
```

== will find that LHS is object and RHS is primitive **number**
It will try to extract primitive **number** from the LHS object
then compare the two numbers !!!

```
let s1= new String("1")
let x = 1
if( s1 === x)
    console.log("same")
else
    console.log("different")
```

=== will check type of LHS as object , type of RHS is primitive number
the types are different so FALSE

```
let s1= new String("1")
let x = new String("1")
if( s1 == x)
    console.log("same")
else
```

```
console.log("different")
```

== RHS is object , LHS is object , compare addresses

```
let s1= new String("1")
let x = new String("1")
if( s1 === x)
    console.log("same")
else
    console.log("different")
```

=== Both sides are of same type i.e object , compare addresses

JS strings are IMMUTABLE

0	1	2	3	4	5	6
P	O	W	E	R	E	D
-7	-6	-5	-4	-3	-2	-1

```
str.slice(start,end)
str.slice( 1, 5) =====> OWER
str.slice(5,1) === no output as (start index < end ) is not true
str.slice( -7, -3) =====> POWE
str.slice(1,-1) ===OWERE
```

Functions in Javascript -----

- define a function using function keyword
- pass value to function
- return value from function

Embed JS in HTML

1.	<script> tag in html
2	We will use JS interpreter in the BROWSER
3	We can have many <script> tags in html and they are executed from top to bottom sequence
4	<script> contains CLIENT SIDE JS

HTML DOM = Document Object Model

```
<html>
  <head><title></title></head>
  <body>
    <div>
      <p>HELLO </p>
      <input type="text" />
    </div>
```

```
        <div>
            <span>HI </span>
        </div>
    </body>
</html>
```

DOM Manipulation ----- adding, removing or changing the nodes in the DOM

DOM creation and DOM manipulation is done by the browser before rendering the html !!!!

Client Side JS is used for DOM Manipulation !!!

-- it contains one inbuilt object that refers to the DOM = **document**

Ex1 -- write a function to show text in div on button click .
write a function to clear text in div on clear button click.
Write a function to show bold text on bold button click

Ex2 -- write a function to accept a string from user and show it in uppercase in a <p> tag on button click
write a function to show the string in lowercase in a <p> tag on button click on lowercase-button
write a function to show the string in titlecase in a <p> tag on button click on titlecase-button

Ex3 -- write a function to accept 2 numbers from user and show their sum
Do it for - * / % square of n1

