

Class :- 10<sup>th</sup>

Date \_\_\_\_\_

### Splice

let array = [0, 1, 2, 3, 4, 5, 6, 7, 8]  
d.W (array, splice (1, 2, 98, 99), "by");  
document.write (array);  
// Add 98, 99 after 1 & remove Item 2  
// by 1.

e.g

1.2

0, 98, 99, 3, 4, 5, 6, 7, 8

### Object

- Store multiple value in single variable
- Values written in curly brackets {} in pairs with Keys
- Syntax

let student = {

d.W (student);  
d.W (student, roll)

name = "hima"

roll no = 23,

class : computer

}

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## For in loop

st student = { name: "taiba", roll no: 55,

Subject: "Computer"

document . wr (student . Subject);

Method 1

(let Key in student)

d . W (Key, "; ", student [key], "<br>")

## Practice Question

- 1) Print odd number of this array =  
[ 34, 45, 67, 95, 24, 12, 1, 5, 6, 8, 9, 79 ] by  
using for of loop
- 2) Create an object and print Keys  
and data with it by using for in loop  
e.g Obj No 1

let arr = [ 1, 2, 3, 4, 5, 6 ];

for (let i of arr)

{

if (i % 2 == 0) {

d . W (i, "<br>");

}

}

### Properties and Method in Arrays

- Let book = ["Maths", "English", "Urdu", "Physics", "Computer"]
1. book.length // length of Array
  2. book.push("Chemistry"); // add word in array in the end
  3. book.unshift("chemistry"); // add in start of Array
  4. book.shift(); // remove a word from start
  5. book.pop(); // to remove word from last and return updated Array.
  6. book.toString() // convert array in string
  7. book.concat(book2) // join 2 or 3 arrays  
 new array dont change  
 original array -
  8. book.indexOf("Urdu"); // to find any word's position
  9. book.slice(startidx, endidx); // in array  
~~original~~ original array // return a slice piece of array -
  10. book.splice(startidx, delcount, next); // change  
 original array // add, remove and replace
- e.g

```
let arr = [1, 2, 3, 4, 5, 6, 7];
arr.splice(2, 2, 55, 56); // 2 index per 3 // 3 and 4
remove // replace // them 55 and 56
arr.splice(3, 0, 44); // if you don't want to
delete any item // 3 index per jarak add 44
arr.splice(2, 3); // if you don't want add only del
items // 2 idx and delete 3 items
```

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```
let info = [5, "hina", "Computer"];
console.log(info);
```

info = [] // to empty array

[log]

```
let arr = [34, "tagya", "Javascript"];
d-W(arr.length) / 3
let l = arr.length - 1;
for (let i = 0; i <= l; i++)
```

{

```
d-W(arr[i], "<br>");
```

}

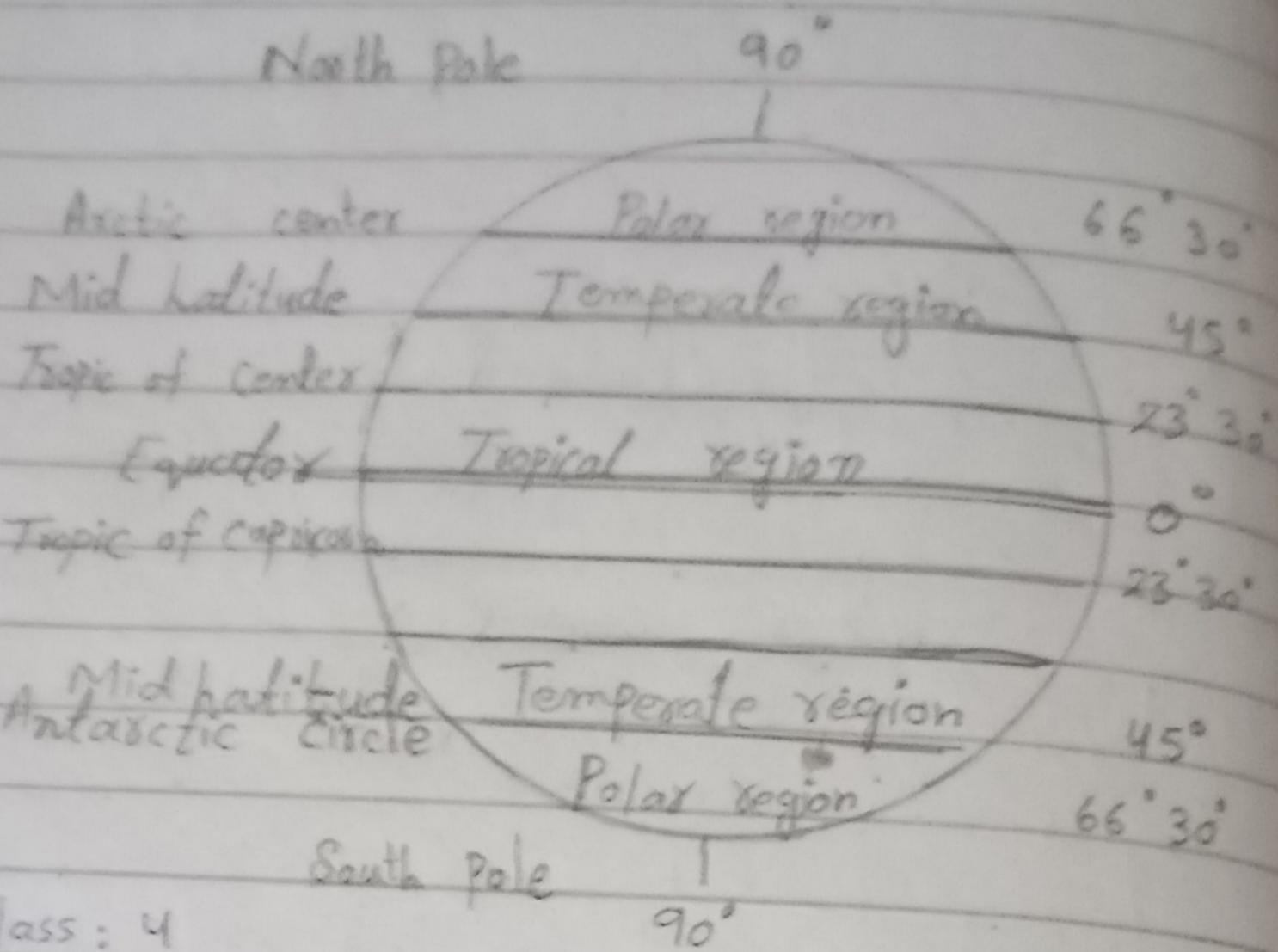
For of loop

```
for (let value of arr)
```

{

```
d-W(value);
```

}



### Operators in JS

- Arithmetic operator  $a+b$ ,  $4+5$   $4($
- Assignment operator  $=$
- Comparison operator  $<$ ,  $>$ ,  $=$
- Logical operator  $\&$ ,  $\|$
- Conditional operator  $? :$

## Practice Question

- Create an array to store different items (minimum 6) Ney / fruit / company etc
- find length of array
- Print all item of array by using for loop
- Remove first item from array
- remove 3rd item and 2 item is this place
- add any item in the last of array
- Remove item from end.

## Switch case break

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## Switch Statement

- let reply = prompt ("Do you want to continue ---");
- Switch (reply)
  - case "y":  
document.write ("continue");  
break;
  - case = "Yes":  
document.write ("continue");  
break;
  - case "N":  
document.write ("end");  
break;
  - case = "no":  
document.write ("end");  
break;
  - default:  
{ document.write ("wrong input"); }

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## Comparison Operator

- $= =$  (equal to)       $= ==$  (equal to + same data type)
- $\neq$  (not equal to)
- $\neq =$  (not equal to & data type)
- $>$  greater than

$>=$

$<$  less than

$<=$

## Arithmetic operators

(+) (-) (\*) (/) Divide

(%) modulus / remainder

exponentiation

• increment • decrement

## Logical operator

- logical And &
- logical OR ||
- logical Not !

↳  
values  
↓  
data  
↓  
e

## Unary operators

- Post increment a++
- Pre incr ++a
- Post decrease a--
- Pre decr --a

e.g let a = 5;  
d w(a++); // 54

## Conditional operator

if Statement

if-else Statement

if- else if Statement

## Ternary operator

Condition? true output : False output

eg:

age > 18? "adult":

"not adult"

## Assignment operator

$= a = 20;$  left side = right

$+= a += 4 / a = a + 4;$

$-= a -= 4 / a = a - 4;$

$*= a *= 4 / a = a * 4;$

$%= a \% = 4 / a = \% 4;$

$**= a ** = 4 / a = a ** 4;$

document.write(str1 + " " + str2)/  
 (str1, " ", str2)

- by concat()

```
let str4 = str.concat(str2)/  

str.concat(str2, str3)  

document.write(str4)
```

e.g

```
let str = " hello! how are you?";  

let l = str.length; - 1 sehatayega  

document.write(l);  

document.write(str[18]); // u // index
```

~~newvar~~ = newvar = str.concat(str2, str3)  
 document.write(newvar);

let str = " I am learning javascript"  
 document.write(str.trim()); // to remove space from start  
 and end console.log per

w. (str.trimstart())//

Kam kare ga

v. (str.trimend())//

(str.toUpperCase())// change in upper case

(str.toLowerCase())// change in lower case

(str.replace("javascript", "html"))// case

Search word and replace (case sensitive)

str.includes("is")// Search word is/ if

True or False not found return -1

## String

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- String is a sequence of characters used to represent a text. It is a primitive data type.
- We can create string by using template literals and in single and double quotation.

## String creation and manipulation

- let str = "I am learning js"; // double
- let str2 = ` I am 'learning js'; // singl
- let str3 = `I am string template`; // template literal (adjacent to 1 key in keyboard)

## How to use template literal

(con. log mein  
use hogा)

- for next line \n -----
- for tab (space) \t -----
- for Print \ in string \
- for write variable in string \${variable}
- for double quotation 'hello' "hello"

## Some string Properties and Methods

- let str1 = "I am learning js!!";
- let str2 = "css"
- let str3 = "html"
- Position / index start with 0 in string
- to find length str.length
- to join strings

### Practice questions:

- Print Counting 10 to 1
- Print your name 20 times on Screen
- Print a table of any number by taking users input.

```
let tabno = Prompt (ParsInt ("-----:"))  
for (i=1 ; i<=10 ; i++)
```

{

```
document.write ('$' + tabno + ' x ' + i + '=' + tabno * i)
```

$$3 \times 1 = 3 * 1$$

```
document.write (<br>);
```

}

## Not & Double Not

boolean value used to ignore the writing  
of code or cancellation

Var a = 5;  
console.log("A = " + a);  
Var b = 1a;  
console.log("b = " + b);  
Var c = 11a;  
console.log("c = " + c);

## Why they are called short

- Circuit

if false then it's short and if true then it's long

Var score = 40;

Var a = score > 50 ? score < 70 :  
Score = 66;

Console.log(a);

## Conclusion :-

else if & break prevent complex logical  
> loop Ope Ope

they use less memory

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let roll no = 56; } sum bhi kar sakte hai  
let name = "hina";  
d.w ("my roll no is \${rollno} my name is \${name}")

### String manipulation

- \n use for print text in new line
- \t use for spaces (tab) more than single space in text
- \\ use for single \ in text
- \\" use double quotations in string

### Loops

- to execute a piece of loop code again and again
- finite loop and infinite loop
- Finite loop (ending point)
- infinite (not end) memory full / computer hangs

### For loop

i - is block scope variable  
use for iteration / counting

for(let i=1; i<=5; i++) // first step initialization

{  
do.w("Hello")  
}  
2nd condition check jab to  
condition true block of  
execute.

++ also i do

3rd step updation.

↳ ↳ + 1

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### variable

- var • let • const

### variable rules

let a\$ \_ \$ 4 ;  
� جواں

let aSddffg - \$ 34 ; let \$ jhhjgjh ;  
let gh ; let -ghhj 34 ;

### datatypes

- number • string • boolean • null • undefined
- objects • function

### class #9

```
for (let i = 20; i >= 1; i--)
```

```
{ document.write("<br>", i); }
```

### array (Primitive data types)

- store multiple value in single variable
- value written in square brackets [ ]
- values separated by comma
- each position is called index
- each value call through index no start with 0
- eg arr [0], arr [1]

Syntax :

## Conditions if - else :-

```

var age = 50;
if (age > 60) {
    console.log("In if Age = " + Age)
    console.log("Hello")
}
else {
    console.log("In else age " + age)
}

```

## Conditions else - if :-

condition multiple use

```

var score = 71;
if (score > 80) {
    console.log("Grade A")
}
else if (score > 70) {
    console.log("Grade B")
}
else if (score >= 60) {
    console.log("Grade C")
}
else {
    console.log("Failed");
}

```

```

var age = 45;
if (age) {
    console.log("In if Age=" + age);
}
else {
    console.log("In if Age=" + age);
}
  
```

## Value Conversion to boolean

non-zero values operator || or &&  
also use 0 values false

var a1 = 'cat'    'Dog'	"Dog"
var a2 = 'False'    'cat'	False
var a4 = ''    false	
var a5 = 0    1;	0

var a1 = 'cat'    'Dog'	"cat"
var a2 = false    'cat';	"Cat"
var a7 = 1    False;	1