ASSIGNMENT-14

Arrays in JavaScript:-

practice all discussed methods first and then make a doc on them.

Array:-

Arrays in programming are data structures that store collections of elements.
They provide a way to organize and manage related pieces of data under a single variable name. Arrays are widely used in programming because they offer flexibility, efficiency, and ease of access to their elements.

Array Methods:-

1)splice() method:

→Used to add new elements to array by deleting existing element.

→Modifies the existing array with remained elements

→contains more than two parameters

i)1st define index positions

ii)2nd Number of elements to be removed from given index

Example:=

```
let arr=[1,2,3,4,5,6]
arr.splice(2,1)                //Output:  [1,2,4,5,6]
arr.splice(2,3)                //Output:[1,2,6]
```

2)slice() method:

→The slice() method in JavaScript is used to create a shallow copy of a portion of an array into a new array object selected from start to end (end not included) where start and end represent the index of items in that array.

→The original array will not be modified.

Example:=

```
let arr=[1,2,3,4,5,6]
let x=arr.slice(2,4)
console.log(x)        //Output:  [3,4]
let y=arr.slice(2)
console.log(y)         //Output: [3,4,5,6]
```

3)Array delete() method:

→Using delete() leaves undefined holes in the array.

Example:=

```
let arr=[1,2,3,4]
delete arr[3]
console.log(arr)     //Output:-[1,2,3,<empty item>,5]
```

→We don't use delete() much,instead we use push and pop.

4)Array flat() method:

→Convert multi dimensional array to single dimentional array.

→Used for flatining of the array.

→flat returns new array by spplying flat.

Example:=

```
Let arr=[1,2,3,[4,5],[5,6],[6,7]]
let x=arr.flat(2)
console.log(x)
```

Search Methods:-

1)Array indexof()

2)Array lastIndex()

3)Array includes()

1)Array indexof():-

→gives index value of searching item

Example:=

let arr=[‘hi’, ‘js’, ‘css’, ‘react’]

let x = arr.indexof(‘js’) //1

let y=arr.indexof(‘html’) //-1

→if element not present in array it will return -1

2)Array lastindexof():-

→if elements are repeating it will find the last index of repeated elements.

Example:=

let arr=[1,2,2,3,3,1]

let x = arr.lastindexof(3)

console.log(x) //1

3)Array includes():-

→if searching element is present in array true else false

Example:=

let arr=[3,4,5,6,7,10]

let x = arr.includes(1)

console.log(x) //false

let y=arr.includes(4)

console.log(y) //true

Map() Methods:-

Map is a array iteration method, which includes call back function and executes the code for every iteration of element in the array and create a new array map() doesn’t modify original array.

Example:=

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

x=arr.map(function() {return ‘hi’})

console.log(x)

Output:

[‘hi’, ’hi’, ’hi’, ’hi’, ’hi’]

→Map method returns new Array.

→Map executes the length of the array for each iteration .

1.Write a function squareNumbers(arr) that returns a new array where each number in the original array is squared using map method.

```
let org_arr=[2,3,4,5]
function squaredNumbers(org_arr){
    return org_arr.map(ele=>ele*ele)
}
let new_arr=squaredNumbers(org_arr)
console.log(new_arr)
```

Output:

[4, 9, 16, 25]

2.Write a function toUppercase(arr) that returns a new array where each string in the original array is converted to uppercase using map method.

```
let org_arr=['html','css','javascript','python']
function toUpperCase(org_arr){
    return org_arr.map(ele=>ele.toUpperCase())
}
let new_arr=toUpperCase(org_arr)
console.log(new_arr)
```

Output:

['HTML', 'CSS', 'JAVASCRIPT', 'PYTHON']