ARRAYS

Assignment # 13-15

JAVASCRIPT

1. Declare an empty array using JS literal notation to store student names in future.

```
//ASSIGNMENT
const studentNames = [];
```

2. Declare an empty array using JS object notation to store student names in future.

```
//ASSIGNMENT

const studentName = new Array();
```

3. Declare and initialize a strings array.

```
//ASSIGNMENT

const name = ["zain", "ali", "anas", "faiq"];
```

4. Declare and initialize a numbers array.

```
//ASSIGNMENT

const number = [1, 2, 3,4];
```

5. Declare and initialize a boolean array.

```
//ASSIGNMENT

const booleanArray = [true, false, true, true, false];
```

6. Declare and initialize a mixed array.

```
//ASSIGNMENT

const mixedArray = ["a", 2, true, { name: "zain", age: 20 }];
```

7. Declare and Initialize an array and store available education qualifications in Pakistan (e.g. SSC, HSC, BCS, BS, BCOM, MS, M. Phil., PhD). Show the listed qualifications in your browser like:

```
//ASSIGNMENT

const qualification=["SSC","HSC","BCS","BS","BCOM","MS","M.Phil","PhD"]
document.write("<h1>Qualifications</h1><br><br>")
for (let index = 0; index < qualification.length; index++) {
document.write(index+1,") ",qualification[index],"<br>")
}
```

Qualifications:

1) SSC
2) HSC
3) BCS
4) BS
5) BCOM
6) MS
7) M. Phil.
8) PhD

8. Write a program to store 3 student names in an array.Take another array to store score of these three students. Assume that total marks are 500 for each student, display the scores & percentages of students like:

```
//ASSIGNMENT

let studentNames=[prompt("Enter student one name:").toUpperCase(),prompt("Enter student two name:").toUpperCase(),prompt("Enter student three name:").toUpperCase()]
let studentMarks=[prompt("Enter student one score:"),prompt("Enter student two score:"),prompt("Enter student three score:")]
for (let index = 0; index < studentMarks.length; index++) {
document.write("Score of ",studentNames[index]," is ",studentMarks[index],".Percentage : ",(studentMarks[index]/500)*100,"% <br>"  )
}
```

Score of Michael is 320. Percentage: 64%
Score of John is 230. Percentage: 46%
Score of Tony is 480. Percentage: 96%

9. Initialize an array with color names. Display the array elements in your browser.
   a. Ask the user what color he/she wants to add to the beginning & add that color to the beginning of the array. Display the updated array in your browser.
   b. Ask the user what color he/she wants to add to the end & add that color to the end of the array. Display the updated array in your browser.
   c. Add two more color to the beginning of the array. Display the updated array in your browser.
   d. Delete the first color in the array. Display the updated array in your browser.
   e. Delete the last color in the array. Display the updated array in your browser.
   f. Ask the user at which index he/she wants to add a color & color name. Then add the color to desired position/index. . Display the updated array in your browser.
   g. Ask the user at which index he/she wants to delete color(s) & how many colors he/she wants to delete. Then

remove the same number of color(s) from user-defined position/index. . Display the updated array in your browser.

```
//ASSIGNMENT

var colors = ["red", "green", "blue"];
document.write("Colours Array:",colors.join(", "),"<br>")
var newColor = prompt("Enter a color to add to the beginning of the array:");
colors.unshift(newColor);
document.write("Updated array after adding color to the beginning: " + colors.join(", ")+"<br>");
var newColor = prompt("Enter a color to add to the end of the array:");
colors.push(newColor);
document.write("Updated array after adding color to the end: " + colors.join(", ")+"<br>");
colors.unshift("orange", "yellow");
document.write("Updated array after adding two colors to the beginning: " + colors.join(", ")+"<br>");
colors.shift();
document.write("Updated array after deleting the first color: " + colors.join(", ")+"<br>");
colors.pop();
document.write("Updated array after deleting the last color: " + colors.join(", ")+"<br>");
var index = prompt("Enter an index to add the color:");
var newColor = prompt("Enter a color to add at the index:");
colors.splice(index, 0, newColor);
document.write("Updated array after adding color at index " + index + ": " + colors.join(", ")+"<br>");
var index = prompt("Enter an index to start deleting colors:");
var count = prompt("Enter the number of colors to delete:");
colors.splice(index, count);
document.write("Updated array after deleting " + count + " colors from index " + index + ": " + colors.join(", ")+"<br>");
```

10. Write a program to store student scores in an array & sort the array in ascending order using Array's sort method.

```
//ASSIGNMENT

let studentScores=[1,8,9,4,5,2,215,78,96,45]
studentScores.sort(function (a,b) {
    if (a>b) {
        return 1;

    }
    else{
        return -1;
    }
})
//OR
studentScores.sort(function (a,b) {
    return a-b;
})
```

Scores of Students : 320,230,480,120
Ordered Scores of Students : 120,230,320,480

11. Write a program to initialize an array with city names. Copy 3 array elements from ***cities*** array to ***selectedCities*** array.

```
//ASSIGNMENT

let cityNames=["Karachi","Lahore","Islamabad","Rawalpindi","Faislabad","MUltan"]
let selectedCities=cityNames.slice(0,3)
```

Cities list:
Karachi,Lahore,Islamabad,Quetta,Peshawar

Selected cities list:
Islamabad,Quetta

12. Write a program to create a single string from the below mentioned array:
var arr = [“This ”, “ is ”, “ my ”, “ cat”];
(Use array’s join method)

```
//ASSIGNMENT

var arr = ["This", "is" , "my", "cat"];
let string=arr.join(" ")
console.log(string);
```

Array:
This,is,my,cat

String:
This is my cat

13. Create a new array. Store values one by one in such a way that you can access the values in the order in which they were stored. (FIFO-First In First Out)

```
//ASSIGNMENT

var queue = [];
queue.push(10);
queue.push(20);
queue.push(30);
var firstValue = queue.shift();
var secondValue = queue.shift();
var thirdValue = queue.shift();
```

Devices:
keyboard,mouse,printer,monitor

Out:
keyboard
Out:
mouse
Out:
printer
Out:
monitor

14. Create a new array. Store values one by one in such a way that you can access the values in reverse order. (Last In-First Out)

Devices:
keyboard,mouse,printer,monitor

Out:
monitor
Out:
printer
Out:
mouse
Out:
keyboard

```
//ASSIGNMENT
var stack = [];
stack.push(10);
stack.push(20);
stack.push(30);
var thirdValue = stack.pop();
var secondValue = stack.pop();
var firstValue = stack.pop();
```

15. Write a program to store phone manufacturers (Apple, Samsung, Motorola, Nokia, Sony & Haier) in an array. Display the following dropdown/select menu in your browser using document.write() method:

```
// ASSIGNMENT
var manufacturers = ["Apple", "Samsung", "Motorola", "Nokia", "Sony", "Haier"];
document.write("<select>");
document.write("<option>select</option>")
for (var i = 0; i < manufacturers.length; i++) {
  document.write("<option>" + manufacturers[i] + "</option>");
}
document.write("</select>");
```