Functions in JS

Block of code that performs a specific task, can be invoked whenever needed

Functions in JS

Function Definition

```
function functionName( ) {

   //do some work

}
```

```
function functionName( param1, param2 ...) {

   //do some work

}
```

Function Call

```
functionName( );
```

Function Save us from Redundency .

Arrow Functions

Compact way of writing a function

```
const functionName = ( param1, param2 ...) => {

    //do some work

}
```

```
const sum = ( a, b ) => {

    return a + b;

}
```

Let‘s Practice

Qs. Create a function using the “function” keyword that takes a String as an argument & returns the number of vowels in the string.

Qs. Create an arrow function to perform the same task.

forEach Loop in Arrays

arr.forEach(callBackFunction)

CallbackFunction : Here, it is a function to execute for each element in the array

*A callback is a function passed as an argument to another function.

forEach is higher order function or higher order methods, because its use other function as a parameter or return the function.

```
arr.forEach( ( val ) => {

    console.log(val);

} )
```

Let‘s Practice

Qs. For a given array of numbers, print the square of each value using the forEach loop.

Some More Array Methods

Map

Creates a new array with the results of some operation. The value its callback returns are used to form new array

arr.map(callbackFnx(value, index, array))

```
let newArr = arr.map( ( val ) => {

    return val * 2;

} )
```

Some More Array Methods

Filter

Creates a new array of elements that give true for a condition/filter.

Eg: all even elements

```
let newArr = arr.filter( ( ( val ) => {

    return val % 2 === 0;

} )
```

Some More Array Methods

Reduce

Performs some operations & reduces the array to a single value. It returns that single value.

JavaScript Demo: Array.reduce()

```
1  const array1 = [1, 2, 3, 4];
2
3  // 0 + 1 + 2 + 3 + 4
4  const initialValue = 0;
5  const sumWithInitial = array1.reduce(
6    (accumulator, currentValue) => accumulator + currentValue,
7    initialValue,
8  );
9
10 console.log(sumWithInitial);
11 // Expected output: 10
```

Let‘s Practice

Qs. We are given array of marks of students. Filter our of the marks of students that scored 90+.

Qs. Take a number n as input from user. Create an array of numbers from 1 to n.
Use the reduce method to calculate sum of all numbers in the array.
Use the reduce method to calculate product of all numbers in the array.