**Javascript Assignment 10**

1. **Are Higher Order functions and Call back functions the same? If not, briefly explain about both functions.**

**No, callback and Higher order functions are not same.**

**Callback :**

1. A callback function is a function that is passed as an argument to another function, to be “called back” at a later time.

**Higher Order function :**

I. A function that accepts other functions (callback functions)as arguments is called a higher-order function, which contains the logic for when the callback function gets executed.

II. It’s the combination of these two that allow us to extend our functionality.

function arraymul(arr, inst) {         //higher order function

    const op = [];

    for(let i =0; i < arr.length; i++) {

        op.push(inst(arr[i]));

    }

    return op;

}

function double(input) {           //callback function

    return input\*2;

}

const result = arraymul([3,6,4], double);

console.log(result);

1. **Is filter a Higher Order function in Javascript ? If yes, why ?**

Yes, filter is a Higher Order function in Javascript.

The filter() function creates a new array populated with all the elements that passed the condition of the callback function; just like the map function, the filter function also accepts three arguments: an element, an index and an array.

Ex: const stu = [

    {name : 'AA', status: true},

    {name : 'BB', status : true},

    {name : 'CC', status : false},

];

const presentStu = stu.filter(student => student.status == true);

console.log(`after filtering the data : ${presentStu}`);

**3.Give an example of a Higher Order function and a call back function used in the same program.**

function arraymul(arr, inst) {         //higher order function

    const op = [];

    for(let i =0; i < arr.length; i++) {

        op.push(inst(arr[i]));

    }

    return op;

}

function double(input) {           //callback function

    return input\*2;

}

const result = arraymul([3,6,4], double);

console.log(result);

**4. Carefully check the example below:**

**a) What will be the output of this program ?**

Hello John

Hello Tina

Hello Kale

Hello Max

**b) Which function is a Higher Order function here ? 🡪** useFunction

**const names= ['John', 'Tina','Kale','Max']**

**function useFunction(arr,fn){**

**for(let i=0; i<arr.length; i++){**

**fn(arr[i]);**

**}**

**}**

**function argFn (name){**

**console.log("Hello " + name );**

**}**

**useFunction(names,argFn);**