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JavaScript Assignment 10

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

```
NO. Both are different.

Higher Order functions are the functions which takes other
functions as an argument and return the functions to its callers.

Whereas Callback function is a function that is passed to another
function with the expectation that another function will call it.
```

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

```
     YES. Map, filter and reduce are the built-in higher order
functions in Javascript.

     Because filter will return each element that meets the
condition set within the anonymous function it receives. filter is
a higher order function which provides a higher level of
abstraction for functions.
```

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

```
function doArithmetic(arr, instruction) {
    const output =[];
    for(let i=0; i<arr.length; i++){
        output.push(instruction(arr[i]));
    }
    return output;
}


function multiplyByTwo(input) {
```

```
    return input*2;
}


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


let result = doArithmetic(arr, multiplyByTwo);


console.log(result);
```

//doArithmetic is a higher order function because it takes in a function called instruction.

//Here, Instruction is a callback function which does some work and gives output.

4. Carefully check the example below:
a) What will be the output of this program ?
b) Which function is a Higher Order function here ?

```
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);
```

a)
```
Hello John
Hello Tina
Hello Kale
Hello Max
```

b) The outer function i.e, useFunction is a Higher Order Function. And argFn is a callback function.