**ASSIGNMENT PROGRAMS USING ANONYMOUS FUNCTIONS**

**Question 1:** Print the odd numbers in an array

**Answer:** let oddnumbers=function(arr){

let oddArray=arr.filter((element)=>{

return (element%2!==0);

});

console.log(...oddArray);

}

oddnumbers([1,2,3,4,5]);

**Question 2:** Convert all the strings to title caps in a string array

**Answer:** let fruits=['Apple','orange','BANANA','sTrAwbErRy'];

let convertTCaps=function(arr){

let caps=arr.map((element)=>{ //Iterating over the array

//Spreading the string value into a character array

let data=[...element];

//Finding out if all the characters after the first character are in UpperCase or LowerCase

let allCaps=data.slice(1).every((value)=>{return

value===value.toUpperCase();});

let allSmall=data.slice(1).every((value)=>{return value===value.toLowerCase();});

//Reducing each character array into a title caps string

let val=data.reduce((prv,curr,index)=>{

if(index!==0 && allCaps===false &&allSmall===false){

return prv+curr.toLowerCase();

}

else if(index===0){

return prv+curr.toUpperCase();

}

else{

return prv+curr;

}

},' ');

//Returning the new string

return val;

});

//Returning the string array

return caps;

}

fruits=convertTCaps(fruits);

console.log(fruits);

**Question 3:** Sum of all numbers in an array

**Answer:** let sum=function(arr){

let tot= arr.reduce((prv,current)=>{

return prv+current; },0);

console.log(tot);

}

sum([1,2,3,4]);

**Question 4:** Return all the prime numbers in an array

**Answer:**

let numbers=[1,-1,2,3,6,8,0,9];

let primeNumbers=function (arr){

let primenos=arr.filter((element)=>{

if(element>1){

for(i=2;i<(element/2);i++){

if(element%i===0){

return false;

}

}

return true;

}

});

return primenos;

}

console.log(...primeNumbers(numbers));

**Question 5:** Return all the palindromes in an array

**Answer**:

let strArray=['Mom','Dad','Baby','Apple','Able was I saw Elba'];

let findPalindromes=function(arr){

let palindromes=arr.filter((element)=>{

let a=[...element]; //Spreading the string into a character array

a.reverse(); //Reversing the character array

//Creating a the reversed String

let reversedString=a.reduce((prv,curr)=>{

return prv+curr.toLowerCase();

},'');

//Comparing the reversed string with the regular string

if(reversedString.localeCompare(element.toLowerCase())===0){

return true;

}

return false;

});

return palindromes;

}

console.log(...findPalindromes(strArray));

**Question 6:** Return a median of 2 sorted arrays of the same size

**Answer:** let p= [1,3,4,6,9];

let q=[7,8,5,2,10];

let getMedian=function(arr1,arr2){

let mergedArray=[...arr1,...arr2];

mergedArray.sort((a,b)=>{ return (a-b);});

let medianIndex=(mergedArray.length/2)-1;

let median=(mergedArray[medianIndex]+mergedArray[medianIndex+1])/2;

return Math.floor(median);

}

console.log(getMedian(p,q));

**Question 7:** Remove duplicates from an array

**Answer:** let removeDuplicates=function(arr){

arr=arr.filter((element,index)=>{

if(arr.slice(index+1).findIndex((value)=>{return element===value;})!==-1){

return false;

}

return true;

});

return arr;

}

console.log(removeDuplicates(["Apple","Apple",2,2,4]));

**Question 8:** Rotate an array by k times and return the rotated array

**Answer:**

let rotatetheArray=function(arr,k,rotateMode='Left'){

let rotatedArray=[];

if(k>0){

if(rotateMode==='Left'||rotateMode==='left'){

for(var i=1;i<=k;i++){

rotatedArray=leftRotate(arr);

}

}

else if(rotateMode==='Right'||rotateMode==='right'){

for(var j=1;j<=k;j++){

rotatedArray=rightRotate(arr);

}

}

}

return rotatedArray;

}

let leftRotate=function(arr){

let lastElement;

arr.forEach((element,index)=>{

if(index===0){

lastElement=arr[arr.length-1];

arr[arr.length-1]=element;

}

else if(index===(arr.length-1)){

arr[arr.length-2]=lastElement;

}

else{

arr[index-1]=element;

}

});

return arr;

}

let rightRotate=function(arr){

let arrElement;

arr.forEach((element,index)=>{

if(index===0){

arrElement=element;

arr[index]=arr[arr.length-1];

}

else{

arr[index]=arrElement;

arrElement=element;

}

});

return arr;

}

console.log(rotatetheArray([1,2,3,4,5],2,'Left'));