1)Anonymous Function and IIFE

a)Print odd numbers in an array
Code

```
var arr=[1,2,3,4,5,6,7,8,9];
(function(){
    let odd=[];
    for(let i=0;i<arr.length;i++)
    if(arr[i]%2!=0)
    odd.push(arr[i]);
    console.log(odd);
})(...arr);
```

Output
[1, 3, 5, 7, 9]

b)convert all the strings to title caps in a string array
Code

```
var arr=["abc","def","ghi","jkl","mno","pqr"];
(function(){
    for(let i=0;i<arr.length;i++)
arr[i]=arr[i].charAt(0).toUpperCase()+arr[i].substring(1).toLowerCase();
    console.log(arr);
})(...arr);
```

Output
['Abc', 'Def', 'Ghi', 'Jkl', 'Mno', 'Pqr']

c)sum of all numbers in an array
Code

```
var arr=[1,2,3,4,5,6,7,8,9];
(function(){
    let sum=0;
    for(let i=0;i<arr.length;i++)
    sum+=arr[i];
    console.log(sum);
})(...arr);
```

Output
45

d)return all the prime numbers in the array
Code

```
var
arr=[1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,
27,28,29,30];
var prime= (function(){
    var x=[],flag;
    for(let i=0;i<arr.length;i++)
    {
        flag=false;
        for(let j=2;j<=Math.ceil(i/2);j++)
        if(arr[i] % j == 0)
        flag=true;
        if(!flag && arr[i] != 1)
        x.push(arr[i]);
    }
    return x;
})(...arr);
console.log(prime);
```

Output

[2, 3, 5, 7, 11,13, 17, 19, 23, 29]

e)return all the palindrome in an array

Code

```
var arr=[1,22,12321,45,253,636,70];
var palindrome= (function(){
    var x=[],n,m,t;
    for(let i=0;i<arr.length;i++)
    {
        n=0;
        t=arr[i];
        while(t)
        {
            m=t%10;
            t=Math.floor(t/10);
            n=(n*10)+m;
        }
        if(n==arr[i])
        x.push(arr[i])
    }
    return x;
})(...arr);
console.log(palindrome);
```

Output
[1, 22, 12321, 636]

f)return median of the two sorted arrays of the same size
Code

```
var arr1=[1,2,3,4,5,6,7,8];
var arr2=[9,10,11,12,13,14,15,16];
var median= (function(){
    let x=[];
    if(arr1.length % 2 != 0)
    {
        x.push(arr1[Math.floor(arr1.length/2)]);
        x.push(arr2[Math.floor(arr2.length/2)]);
    }
    else
    {
        x.push((arr1[(arr1.length/2)-1]+arr1[arr1.length/2])/2);
        x.push((arr2[(arr2.length/2)-1]+arr2[arr2.length/2])/2);
    }
    return x;
})(...arr1, ...arr2);
console.log(median);
```

Output
[4.5, 12.5]

g)remove duplicates from an array
Code

```
var arr=[4,5,1,2,3,24,3,2,2,34,1];
(function(){
    for(let i=0;i<arr.length;i++)
    while(arr.indexOf(arr[i]) != arr.lastIndexOf(arr[i]))
    arr.splice(arr.lastIndexOf(arr[i]),1)
    console.log(arr);
})(...arr);
```

Output
[4, 5, 1, 2, 3, 24, 34]

h)rotate an array by k times
Code

```
var arr=[1,2,3,4,5,6,7,8,9];
var k=3;
```

```
(function(){
    for(let i=0;i<k;i++)
    {
        let t=arr[(arr.length)-1];
        for(let j=arr.length-2;j>=0;j--)
        arr[j+1]=arr[j];
        arr[0]=t;
    }
    console.log(arr);
})(...arr,k);
```

Output

[7, 8, 9, 1, 2, 3, 4, 5, 6]

2)GUVI : Zen Code-Sprints:-- JavaScript Functions – Warmup Pbms

Code

```
var num=10;
function addFive(num){
console.log(5+num)
}
addFive(5);
addFive(0);
addFive(-5);
```

Output

10

5

0

Code

```
function getOpposite(num){
if(Number.isInteger(num) &&  num!=0)
return -1*num;
else
if(num==0)
return 0;
else
return -1;
}
var result = getOpposite(5);
console.log(result);
var result = getOpposite(0);
console.log(result);
```

```
var result = getOpposite(-5);
console.log(result);
var result = getOpposite("5a");
console.log(result);
var result = getOpposite(5.5);
console.log(result);
```

Output

-5
0
5
-1
-1

Code

```
function findPerimeter(num1,num2)
{
    return 2*(num1+num2);
}
var peri = findPerimeter(6,7);
console.log(peri);
var peri = findPerimeter(20,10);
console.log(peri);
var peri = findPerimeter(2,9);
console.log(peri);
```

Output

26
60
22

Code

```
var s= reverseString("JavaScript");
console.log(s);
function reverseString(s)
{
    let t;
    let arr=s.split('');
    for(let i=0,j=(arr.length)-1;i<=j;i++,j--)
    {
        t=arr[i];
        arr[i]=arr[j];
        arr[j]=t;
```

```
    }
    return arr.join('');
}
```

Output

tpircSavaJ

Code

```
console.log(sumCSV("1.5, 2.3, 3.1, 4, 5.5, 6, 7, 8, 9, 10.9"));
function sumCSV(s)
{
    let sum=0;
    let arr=s.split(', ').map(Number);
    for(let i=0;i<arr.length;i++)
    sum+=arr[i];
    return sum;
}
```

Output

57.3

3)do the below program in arrow function

a)print odd numbers in an array

Code

```
var oddNumbers=(arr)=>{
    var odd=[];
    for(let i=0;i<arr.length;i++)
    if(arr[i]%2!=0)
    odd.push(arr[i]);
    return odd;
}
var arr=[1,2,3,4,5,6,7,8,9];
var a=oddNumbers(arr);
console.log(a);
```

Output

[1, 3, 5, 7, 9]

b)convert all the strings to title caps in a string array

Code

```
var titleCaps=(arr)=>{
    for(let i=0;i<arr.length;i++)
arr[i]=arr[i].charAt(0).toUpperCase()+arr[i].substring(1).toLowerCase();
    return arr;
```

```
}
var arr=["abc","def","ghi","jkl","mno","pqr"];
var a=titleCaps(arr);
console.log(a);
```

Output
['Abc', 'Def', 'Ghi', 'Jkl', 'Mno', 'Pqr']

c)sum of all numbers in an array
Code

```
var sumOfArray=(arr)=>{
    let sum=0;
    for(let i=0;i<arr.length;i++)
    sum+=arr[i];
    return sum;
}
var arr=[1,2,3,4,5,6,7,8,9];
var a=sumOfArray(arr);
console.log(a);
```

Output
45

d)return all the prime numbers in an array
Code

```
var prime=(arr)=>{
    var x=[],flag;
    for(let i=0;i<arr.length;i++)
    {
        flag=false;
        for(let j=2;j<=Math.ceil(i/2);j++)
        if(arr[i] % j == 0)
        flag=true;
        if(!flag && arr[i] != 1)
        x.push(arr[i]);
    }
    return x;
}
var
arr=[1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,
27,28,29,30];
var a=prime(arr);
```

```
console.log(a);
```

Output

[2, 3, 5, 7, 11, 13, 17, 19, 23, 29]

e)return all the palindromes in an array

Code

```
var palindrome=(arr)=>{
    var x=[],n,m,t;
    for(let i=0;i<arr.length;i++)
    {
        n=0;
        t=arr[i];
        while(t)
        {
            m=t%10;
            t=Math.floor(t/10);
            n=(n*10)+m;
        }
        if(n==arr[i])
        x.push(arr[i])
    }
    return x;
}
var arr=[1,22,12321,45,253,636,70];
var a=palindrome(arr);
console.log(a);
```

Output

[1, 22, 12321, 636]