Assignment 4

```
//Q1 Reverse a String
        str="hello"
        let emp="";
        for(let i=str.length-1;i>=0;i--){
            emp+=str[i]
        }
        console.log(emp)
```

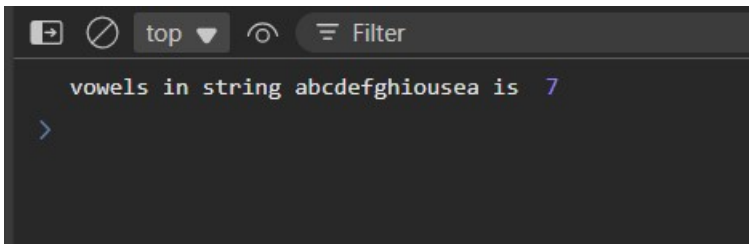
```
//Q2Factorial of a Number
    n=3;
    function fac(n){
       if(n==0 || n==1){
        return 1
       }
       else{
        return n*fac(n-1)
       }
    }
let y=fac(5)
console.log("factoral of number is:",y)
```

```
//3 Check for Palindrome
let str="madam";
let ret="";
for(let i=(str.length-1);i>=0;i-- ){
    ret += str[i]
}
console.log("reverse string is",(ret))
console.log("original string is",(str))

if (str == ret){
    console.log("It is palindrome")
}
else{
    console.log("It is not a palindrome")
}
```

```
//4.Find the Largest Number in an Array
let arr=[1,2,8,4,5,7,9];
const larger =arr.reduce((res,curr)=>{
    if(res>curr){
        return res
    }
    else{
        return curr
    }
})
console.log(larger)
```

```
//5 Sum All Numbers in an Array
let arr=[4,5,6,7,8];
const sum=arr.reduce((res,curr)=>{
    return res+curr
})

console.log(sum)
```

```
//6 Count Vowels in a String
str="abcdefghiousea";
cout=0;
for(let i=0;i<str.length;i++){
    if(str[i]=="a"||str[i]=="o"||str[i]=="i"||str[i]=="e"||str[i]=="u"){
        cout++
    }
}
console.log(`vowels in string ${str} is `,cout)
```




```
// 1 1 2 3 5 8 13
 // 7 Generate Fibonacci Sequence
 function gerfib(n){
    let a=[0,1];
   for(let i=2;i<n;i++){
    a[i]=a[i-1] + a[i-2];

}
return a
}
console.log(gerfib(5))
```

```
//8 Check Even or Odd
function evenOdd(n){
    if(n%2==0){
        console.log(`${n} is even number`)
    }
    else{
         console.log(`${n} is odd number`)
    }
}
evenOdd(11)
```

```
// 9 Capitalize First Letter of Each Word
let senen="hi i am akanksha";
let str=senen.split(" ")
console.log(str)
for(let i=0;i<str.length;i++){
    console.log(str[i][0].toUpperCase() +str[i].slice(1,))

}
```

```
// 10 Remove Duplicates from an Array
let arry=[1,1,2,3,3,4,1,2,3,4]
let emp=[]
for(let i=0;i<arry.length;i++){
    if(!emp.includes(arry[i])){
        emp.push(arry[i])
    }
}
console.log(emp)
```

```
// 11 Check if a Number is Prime
function prime(n){
let isPrime = true;

if (num <= 1) {
  isPrime = false;
} else {
  for (let i = 2; i <= Math.sqrt(num); i++) {
    if (num % i === 0) {
      isPrime = false;
      break;
    }
  }
}
if (isPrime) {
  console.log(num + " is a Prime number");
} else {
  console.log(num + " is NOT a Prime number");
}
}
prime(11)
```

```
12 Convert Celsius to Fahrenheit
function celsiusToFahrenheit(celsius) {
  return (celsius * 9/5) + 32;
}
console.log(celsiusToFahrenheit(0));
console.log(celsiusToFahrenheit(100));
```

```
13 Find Longest Word in a Sentence
str="I am akanksha"
let s=str.split(" ")
let Longest="";
for(let i=0;i<s.length;i++){
   if(s[i].length >Longest.length){
    Longest =s[i];
   }
}
console.log("longest word is:",Longest)
```

```
//14 Count Words in a Sentence
str="I am akanksha"
 let s=str.split(" ")
 console.log(s.length)
```

```
//15 Replace All Occurrences of a Word in a String
let str = "I love JavaScript. JavaScript is powerful.";
let rep=str.replaceAll("JavaScript","python")
console.log(rep)
```

```
//16 Find the Second Largest Number in an Array
let arr=[10,2,3,4,5,6,7];

const sum=arr.reduce((acc,curr)=>{
    let [largest, secondLargest] = acc;

    if(curr>largest){
        secondLargest = largest;
        largest = curr;
    } else if (curr > secondLargest && curr !== largest) {
        // between largest and second largest
        secondLargest = curr;
    }
    return [largest, secondLargest];
}, [-Infinity, -Infinity]);
console.log("second largest is",sum[1])
```

```
//Q17 Find Common Elements Between Two Arrays
let a=[1,2,3,4,5,6,7];
let b=[3,4,5,6,9];
let c=[]

for(let i=0;i<a.length;i++){
    for(let j=0;j<b.length;j++){
        if(a[i]===b[j]){
            // console.log(a[i])
         c.push(a[i])
        }else{

        }
    }
}
console.log(c)
```

```
//Q18 Sort an Array of Numbers
let a1=[2,3,41,54,22,1];

// Sort in ascending order
a1.sort((a, b) => a - b);
console.log("Ascending:", a1);
// Sort in descending order
a1.sort((a, b) => b - a);
console.log("Descending:", a1);
```

```
//19 Repeat a String n Times

//m1
let str = "hello ";
let n = 3;
let repeated = str.repeat(n);
console.log(repeated)
```

```
//m2
let result = "";
for (let i = 0; i < n; i++) {
    result += str;
}
console.log(result);
```

```
//20 Check if All Characters in a String Are Unique
str="abcde";
let isUnique = true;

for(let i=0;i<str.length;i++){
    for(let j=i+1;j<str.length;j++){
    if (str[i] === str[j]) {
            isUnique = false;
            break;
        }
    }
    if (!isUnique) break;
}
console.log(isUnique ? "All characters are unique" : "Duplicates found");
```