Assignment 8(A)

1. Write a program that takes a string “hello” as input and outputs an array of character.

```
let str = "hello";
console.log(Array.from(str))
```

2. Write a program that generates an array of numbers from 1 to 5

```
function Fun(n)
{
    let arr=[];
    for(let i=n;i>0;i--)
    {
        arr.unshift(i);
    }
    return arr;
}
console.log(Fun(5));
```

3. Write a program that takes an array of numbers as input and output an array of their squares

```
// Method 1

function check(arr)
{
    let NewArr=[];
    for(let i=0;i<arr.length;i++)
    {
        NewArr.unshift(arr[i]*arr[i]);
    }
    return NewArr.reverse();
```

```
}

let arr = [1,2,3,4];
console.log(check(arr))


// Method 2

let NewArr=[];
function check(val)
{
    NewArr.unshift(val*val);
}

let arr = [1,2,3,4];
let ans = arr.map(check);
console.log(NewArr.reverse());
```

4. Write a program that takes an array as input and outputs a subarray containing elements from index 1 to 3

```
function check(arr,i,j)
{
    let NewArr=[];
    for(let k=i;k<=j;k++){
        NewArr.unshift(arr[k]);
    }
    return NewArr.reverse();
}

let arr = [10,20,30,40,50,60,70,80,90];
console.log(check(arr,1,3));
```

5. write a program that takes an array as input and output the last 3 elements

```
let NewArr=[];
function check(arr)
{
    for(let i=arr.length-1;i>arr.length-4;i--)
    {
        NewArr.unshift(arr[i]);
    }
    return NewArr;
}
let arr = [1,2,3,4,5];
console.log(check(arr));
```

6. Write a program that takes an array as input and output a swallow copy

```
let arr = [1,2,3,4];
console.log(Array.from(arr))
```

7. Write a program that takes an array as input and outputs the even indexed elements

```
let NewArr=[];
function check(arr)
{
    for(let i=arr.length-1;i>=0;i--)
    {
        if(i%2==0)
        {
            NewArr.unshift(arr[i]);
        }
    }
    return NewArr;
}
```

```
let arr = [10,20,30,40,50];
console.log(check(arr));
```

8. Write a program that takes an array as input ,copies it and then changes the first element of the copy to 10

```
let arr = [1,2,3,4,5];
arr.shift();
arr.unshift(10);
console.log(arr);
```

9. Write a program that takes an array as input and removes the second elements

```
let NewArr=[];
function check(arr){
    for(let i=0;i<arr.length;i++){
        if(i!==1){
        NewArr.unshift(arr[i]);
        }
    }
    return NewArr.reverse();
}

let arr = [10,20,30,40,50];
console.log(check(arr));
```

10. Write a program that takes an array as input and removes the last two elements

```
let NewArr=[];
function check(arr){
    for(let i=0;i<arr.length-2;i++)
    {
        NewArr.unshift(arr[i]);
    }
```

```
    return NewArr.reverse();
}

let arr = [1,2,3,4,5,6,7,8,9];
console.log(check(arr));
```

11. Write a program that takes an array as input and insert the number 25 at index 2

```
function check(arr){
    let NewArr=[];
    for(let i=0;i<arr.length;i++){
        if(i==2){
            NewArr.unshift(arr[i],25);
        }
        else{
            NewArr.unshift(arr[i]);
        }
    }
    return NewArr.reverse();
}

let arr = [10,20,30,40,50];
console.log(check(arr));
```

12. Write a program that takes an array as input and replaces elements at indices 1 and 2 with [50,60]

```
function check(arr)
{
    arr.shift();
    arr.shift();
    arr.shift();
    arr.unshift(60);
    arr.unshift(50);
```

```
    arr.unshift(10);
    return arr;
}
let arr = [10,20,30,40,50];
console.log(check(arr))
```

13. Write a program that takes an array as input , removes the first element , and insert 5 at the beginning

```
function check(arr)
{
    arr.shift();
    arr.unshift(5);
    return arr;
}

let arr = [1,2,3,4];
console.log(check(arr));
```

Assignment (B)

Question 1.

```
let arr = [10,14,15,20,21,28,35];
//const evens = arr.filter(item => item % 2 === 0);
const div5 = arr.filter(item => item%5 == 0);
const div7 = div5.filter(item => item%7 == 0);
console.log(div7.map(num=>num*num).reduce((acc,curr)=>acc+curr)
```

Question 2.

```
function check(val){
    if(val.length>5)
    {
        return val.length;
    }
```

```
}

let arr = ["apple","banana","kiwi","orange","strawberry"];
let ans = arr.filter(check);
let out = ans.reduce((acc,curr)=>acc+curr);
console.log("[ total_length: "+out.length+ "]");
```

Question 3.

```
let arr = [
    {
        name:"apple",
        price:1.5,
        quantity:3,
    },
    {
        name:"orange",
        price:1.75,
        quantity:2,
    },
    {
        name:"banana",
        price:0.75,
        quantity:5,
    },
   ]

let ans = arr.map(check=>check.price*check.quantity)
          .reduce((acc,curr)=>acc+curr);
console.log("Total value of all  Products is "+ans);
```

Question 4.

```
function check(val)
{
    return {name: val, length: val.length};
```

```
}

let arr = ["apple","banana","kiwi","orange","strawberry"];
let ans = arr.map(check);
console.log(ans);
}
```

Question 5.

```
function check(val)
{
    let total_marks=val.grade[0]+val.grade[1]+val.grade[2];
    return {name: val.name ,Grade: val.grade ,
    Average: Math.round(total_marks/3)};
}


let arr = [
    {
        name:"Alice",
        grade:[80,90,75],
    },
    {
        name:"Bob",
        grade:[70,82,68],
    },
    {
        name:"Abhishek",
        grade:[88,94,79],
    },

    ]
```

```
    let avg = arr.map(check);
    console.log(avg);
```

Question 6.

```
let arr = ["hello","world","apple"];
let ans = arr.reduce((acc,curr)=>acc+curr);
let obj = [];
for(let i=0;i<ans.length;i++)
{
    if(obj[ans[i]]==undefined)
    {
        obj[ans[i]]=1;
    }
    else
    {
        obj[ans[i]]+=1;
    }
}

console.log(obj);
```