1.

```
console.log(0.1+0.2==0.3) //false
console.log(0.1 + 0.2) // 0.30000000000000004
```

2.

```
‘use strict’;
(function(){
var a = b = 3;
})();

console.log("a defined? " + (typeof a! == 'undefined')); undefined! =='undefined';
console.log("b defined? " + (typeof b! == 'undefined')); true! =='undefined';
```

3.

```
function foo1()
{
return {
bar: "hello"
};
}

function foo2()
{
return
{
bar: "hello"
};
}
```

O/P: Both doesn’t return same(return keyword in foo2() acts like the end of the statement by assigning ;

4.

```
(function() {
console.log(1);
setTimeout(function(){console.log(2)}, 1000);
setTimeout(function(){console.log(3)}, 0);
console.log(4);
})();
```

O/p: 1 4 3 2

5. Will this work?

```
var x=10,y=11,
z=x+y;
```

O/p: Yes, this will work

6. find second largest number from Array

7. let i;

```
for (i = 0; i < 3; i++) {
setTimeout(()=>console.log(i), 100);

}
```

Ans: 3 3 3
Reason: in for loop i acts as global scope

8. function sum(a,b,c){

```
  return a+b+c;

}
```

```
function sum(a,b){
return a+b;
}
```

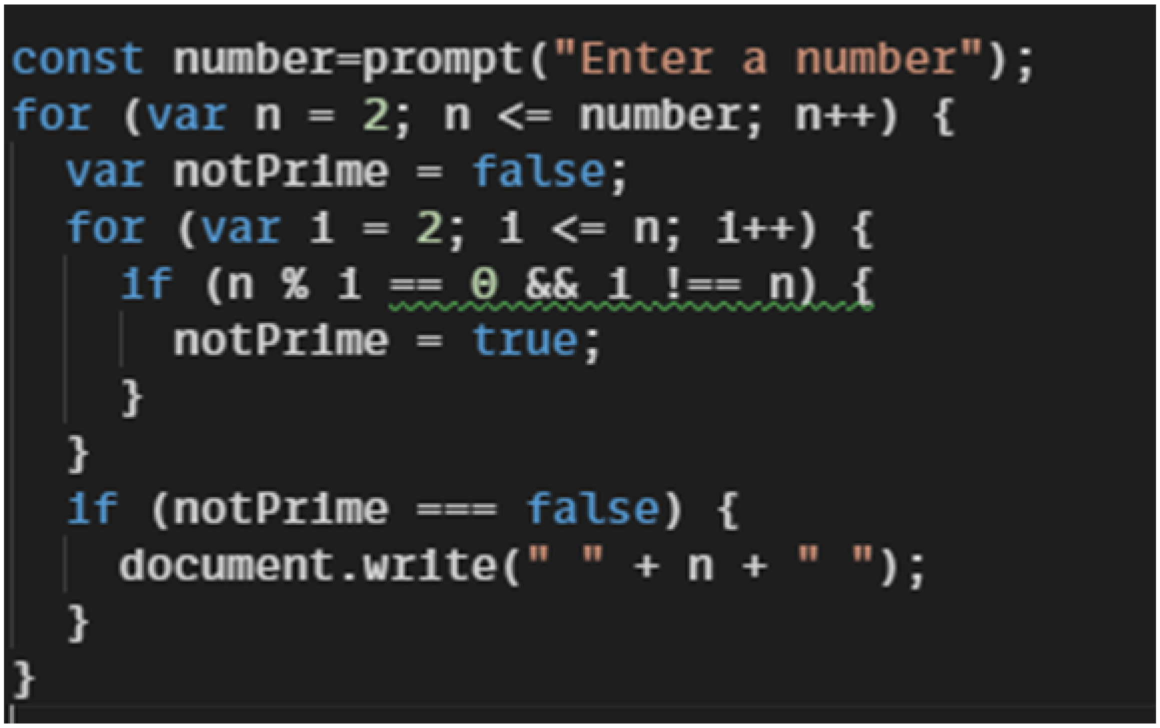
var result=sum(1,2,3)

console.log(result); //3

Reason: Overriding

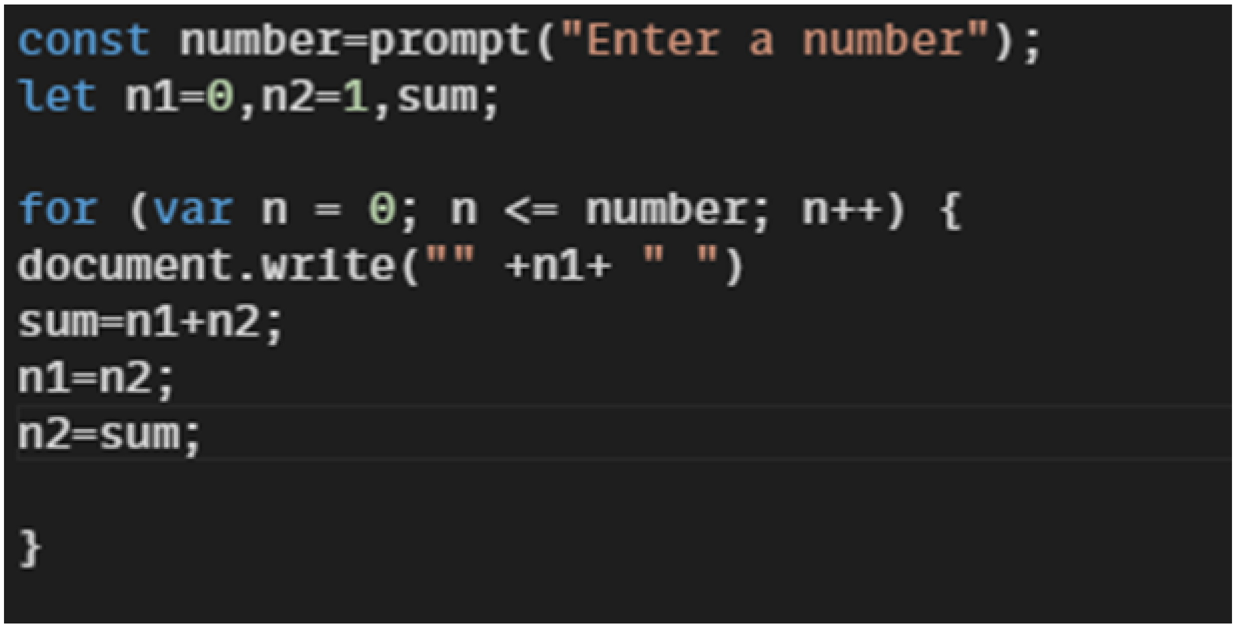
--

1. Prime Number



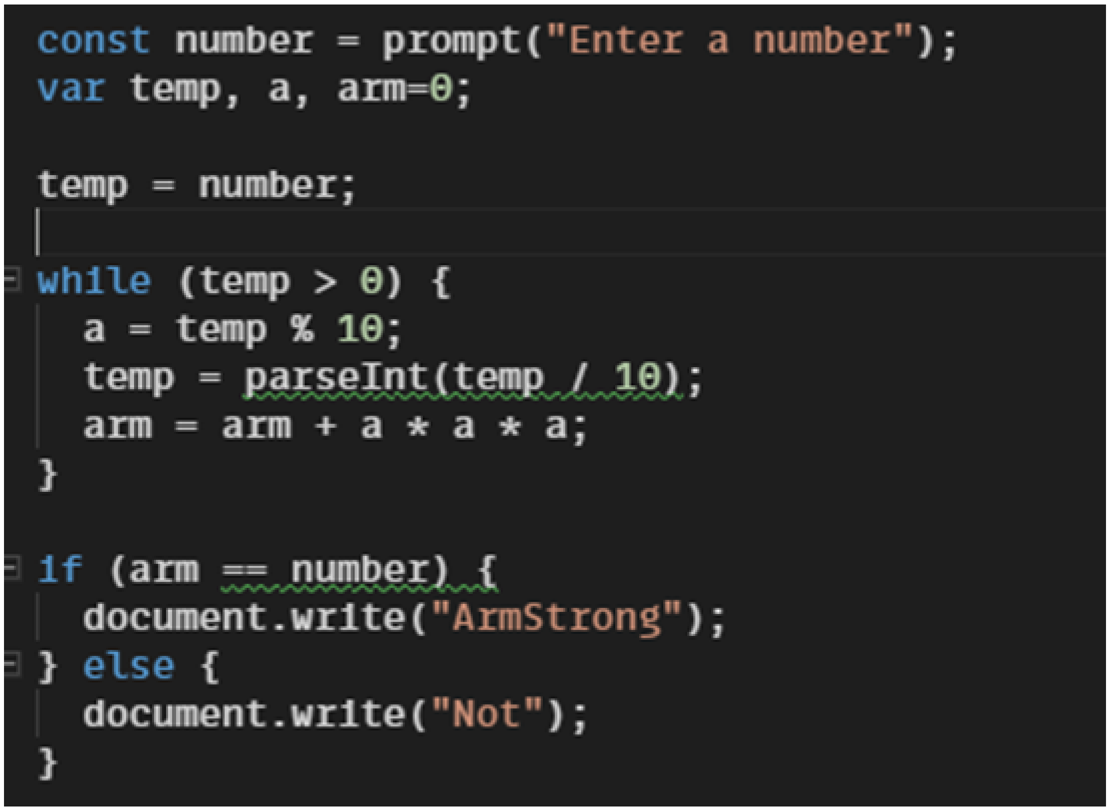
```
const number=prompt("Enter a number");
for (var n = 2; n <= number; n++) {
  var notPrime = false;
  for (var i = 2; i <= n; i++) {
    if (n % i == 0 && i !== n) {
      notPrime = true;
    }
  }
  if (notPrime === false) {
    document.write(" " + n + " ");
  }
}
```

2. Fibonacci



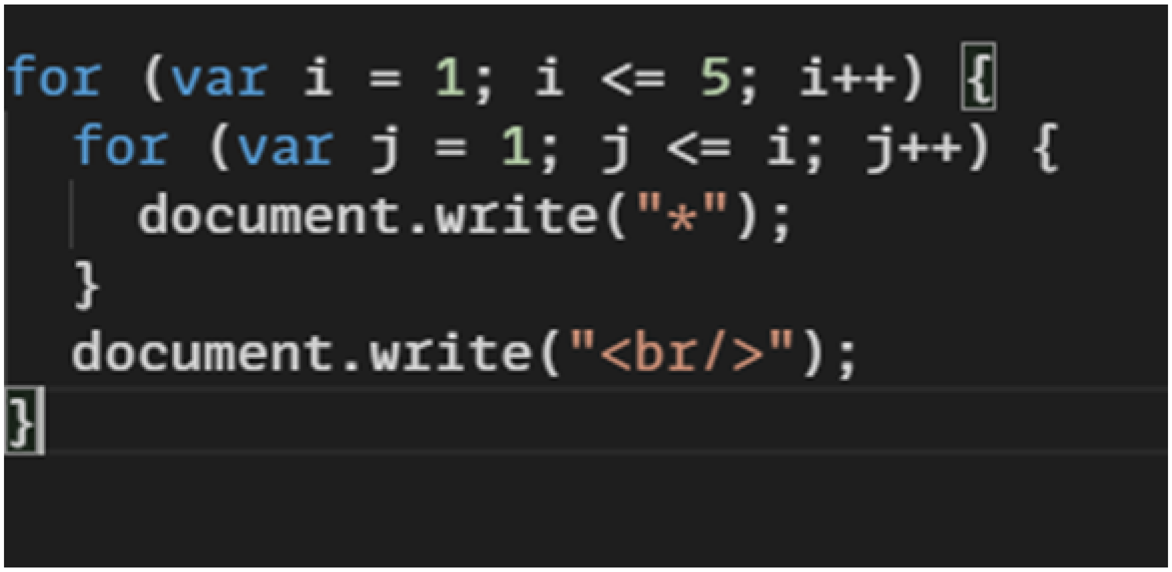
```
const number=prompt("Enter a number");
let n1=0,n2=1,sum;

for (var n = 0; n <= number; n++) {
document.write("" +n1+ " ")
sum=n1+n2;
n1=n2;
n2=sum;

}
```

3. Armstrong



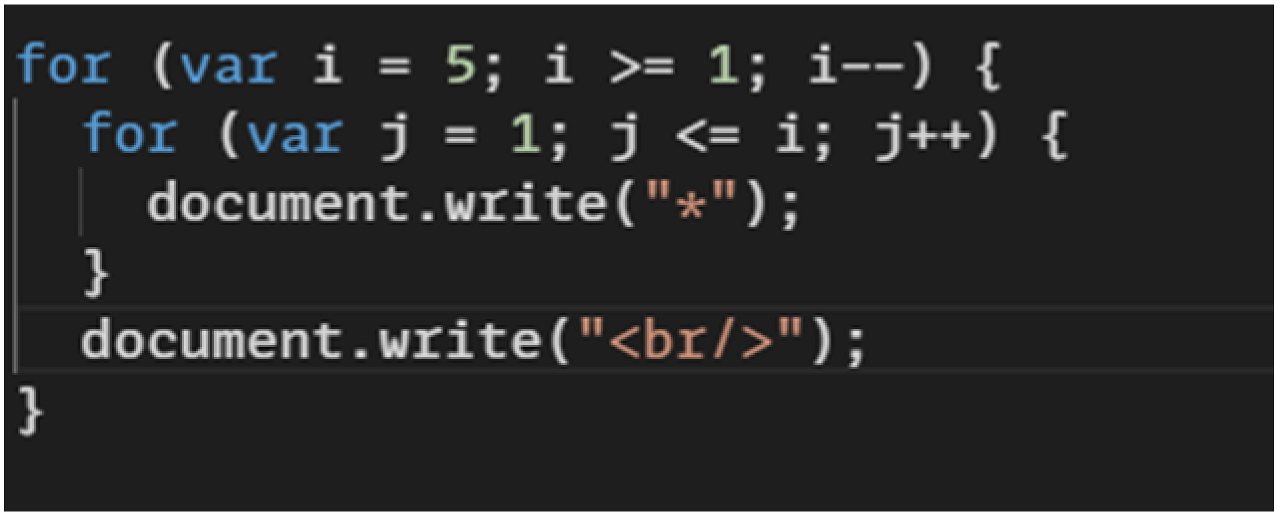
```
const number = prompt("Enter a number");
var temp, a, arm=0;

temp = number;

while (temp > 0) {
  a = temp % 10;
  temp = parseInt(temp / 10);
  arm = arm + a * a * a;
}

if (arm == number) {
  document.write("ArmStrong");
} else {
  document.write("Not");
}
```

4. Star pattern



```
for (var i = 1; i <= 5; i++) {
  for (var j = 1; j <= i; j++) {
    document.write("*");
  }
  document.write("<br/>");
}
```

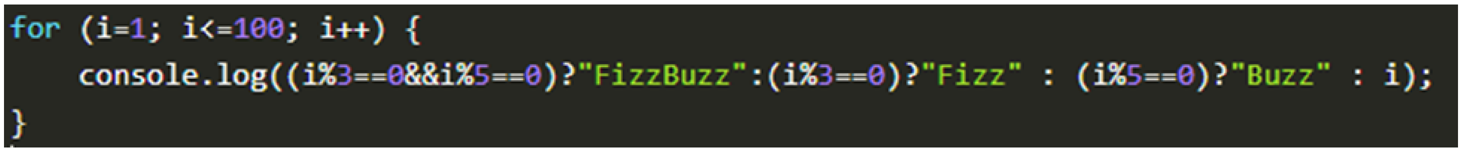
```
*
**
***
****
*****
```



```
for (var i = 5; i >= 1; i--) {
  for (var j = 1; j <= i; j++) {
    document.write("*");
  }
  document.write("<br/>");
}
```

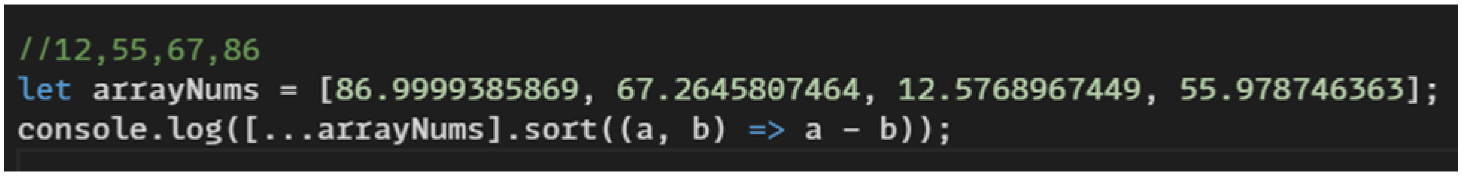
```
*****
****
***
**
*
```

5. Fizzbuzz



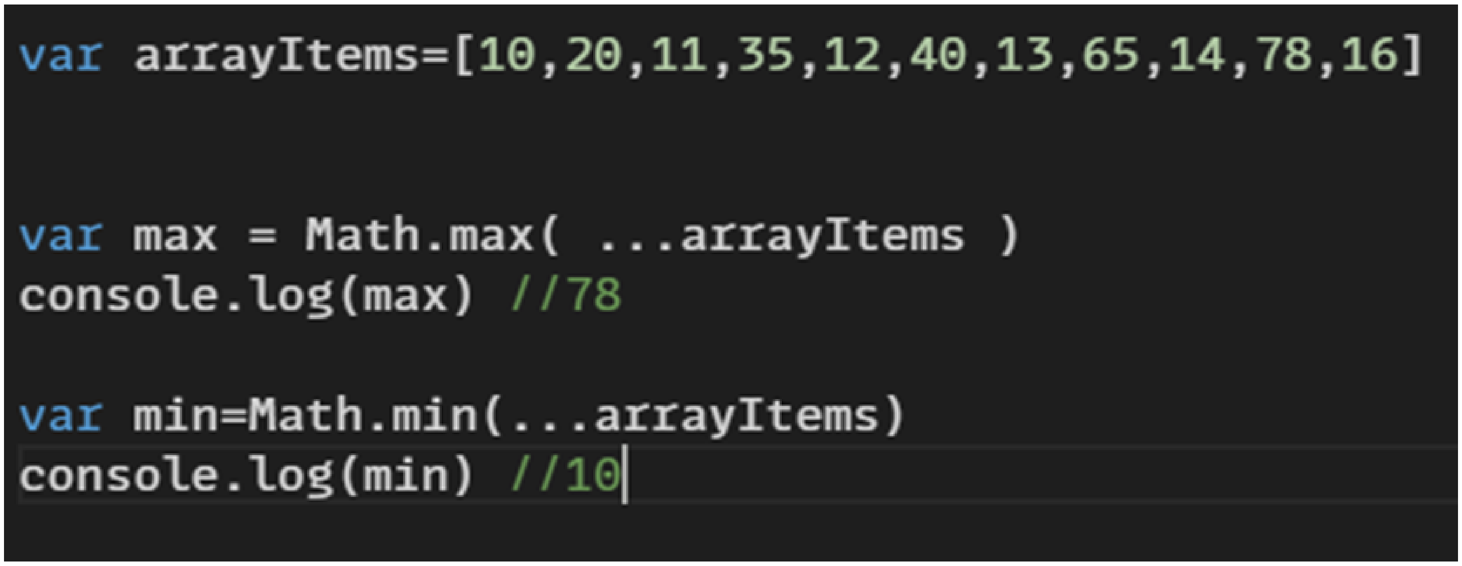
```
for (i=1; i<=100; i++) {
    console.log((i%3==0&&i%5==0)?"FizzBuzz":(i%3==0)?"Fizz" : (i%5==0)?"Buzz" : i);
}
```

6. Sort an float array



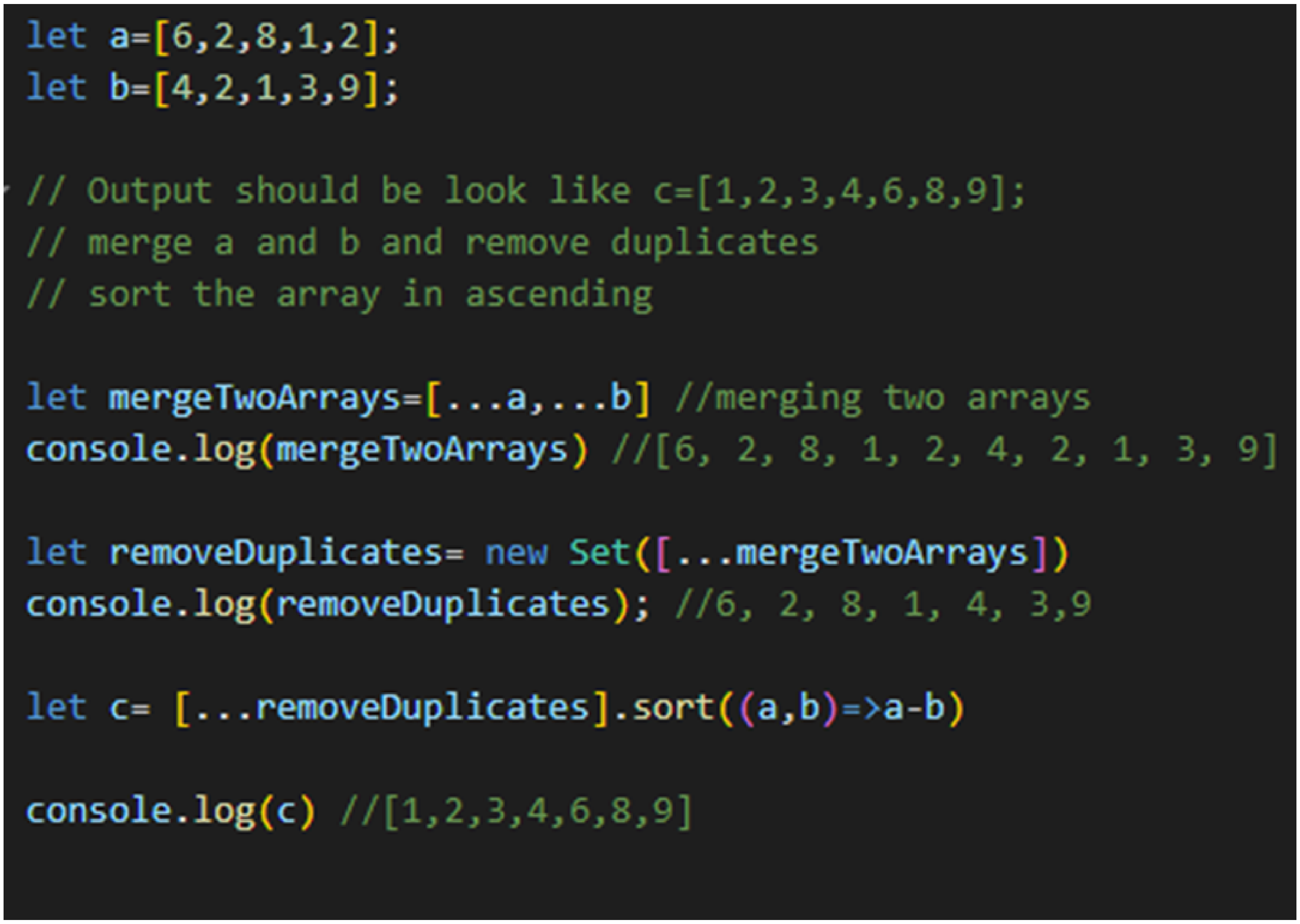
```
//12,55,67,86
let arrayNums = [86.9999385869, 67.2645807464, 12.5768967449, 55.978746363];
console.log([...arrayNums].sort((a, b) => a - b));
```

7. Maximum and Minimum values



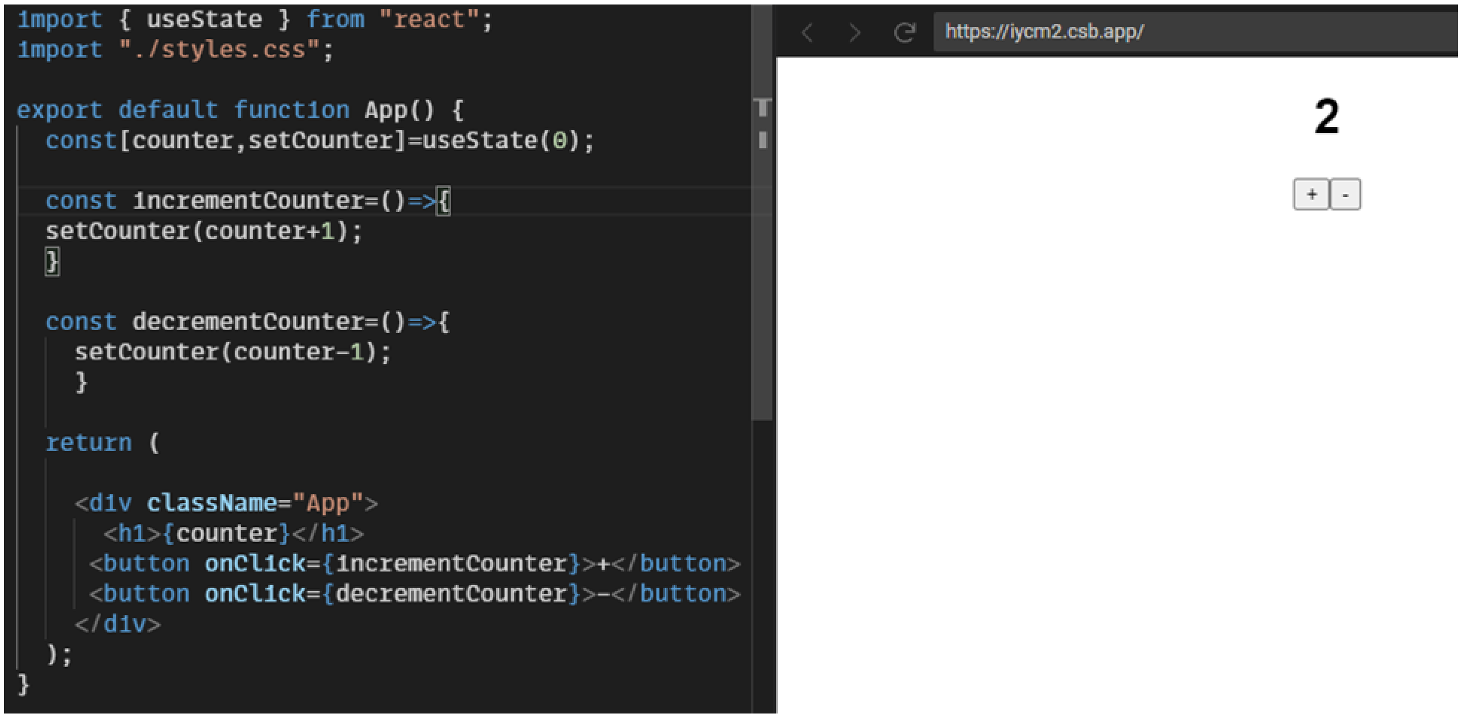
```
var arrayItems=[10,20,11,35,12,40,13,65,14,78,16]


var max = Math.max( ...arrayItems )
console.log(max) //78

var min=Math.min(...arrayItems)
console.log(min) //10
```

8. Output as per the questions



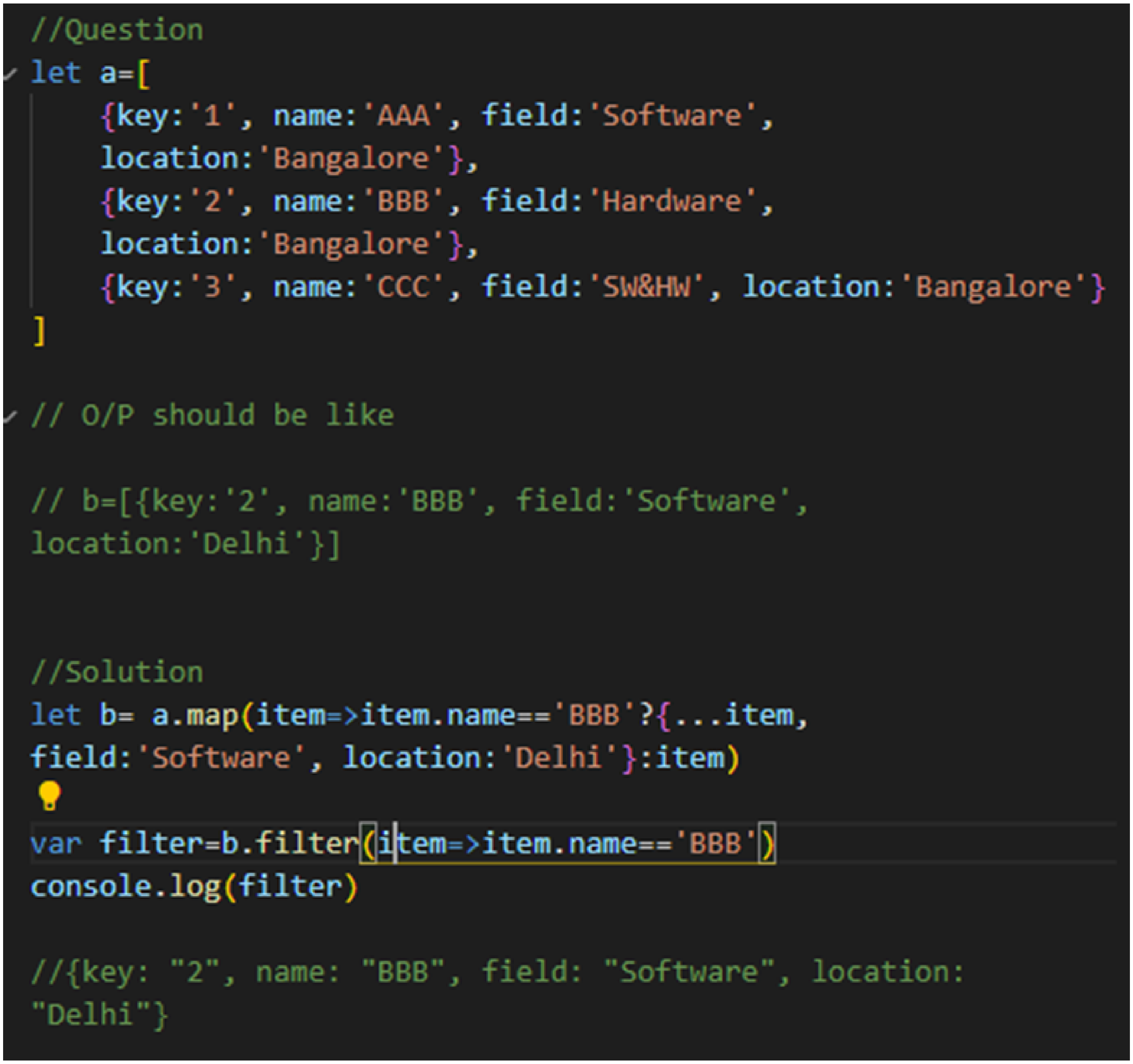
```javascript
let a=[6,2,8,1,2];
let b=[4,2,1,3,9];

// Output should be look like c=[1,2,3,4,6,8,9];
// merge a and b and remove duplicates
// sort the array in ascending

let mergeTwoArrays=[...a,...b] //merging two arrays
console.log(mergeTwoArrays) //[6, 2, 8, 1, 2, 4, 2, 1, 3, 9]

let removeDuplicates= new Set([...mergeTwoArrays])
console.log(removeDuplicates); //6, 2, 8, 1, 4, 3,9

let c= [...removeDuplicates].sort((a,b)=>a-b)

console.log(c) //[1,2,3,4,6,8,9]
```

9.



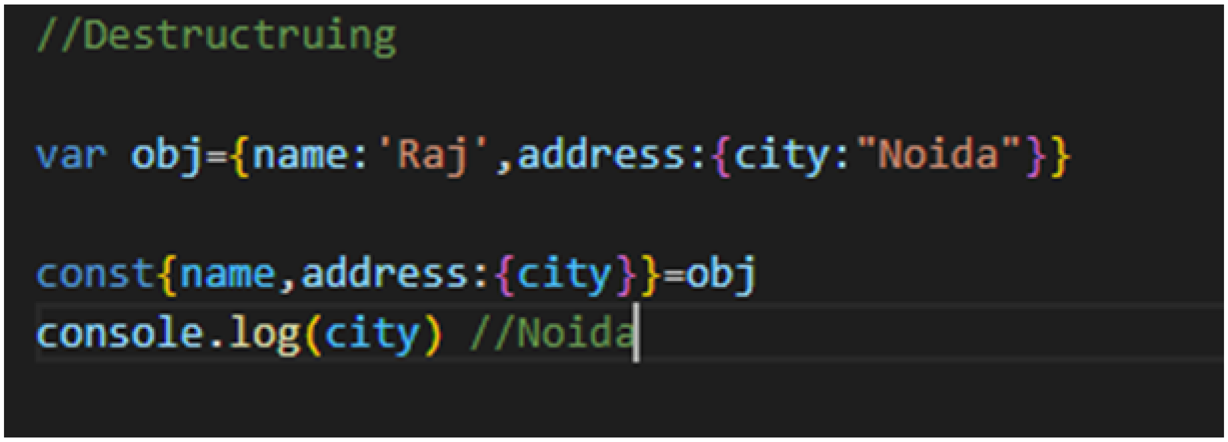
```javascript
import { useState } from "react";
import "./styles.css";

export default function App() {
  const[counter,setCounter]=useState(0);

  const incrementCounter=()=>{
  setCounter(counter+1);
  }

  const decrementCounter=()=>{
    setCounter(counter-1);
    }

  return (

    <div className="App">
      <h1>{counter}</h1>
     <button onClick={incrementCounter}>+</button>
     <button onClick={decrementCounter}>-</button>
    </div>
  );
}
```

10.

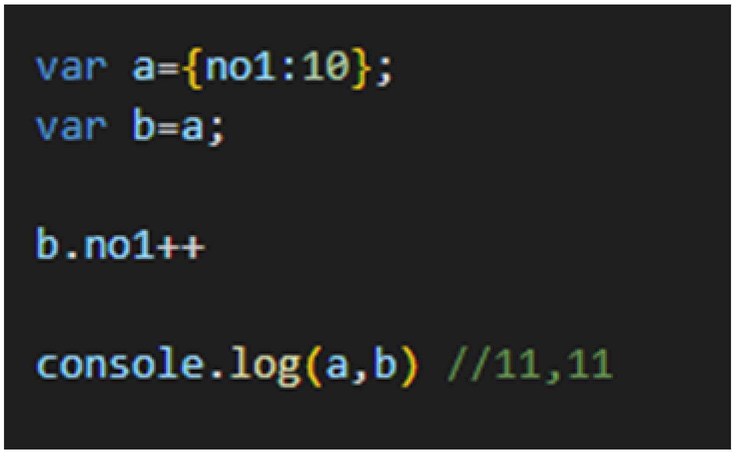


```
//Question
let a=[
    {key:'1', name:'AAA', field:'Software',
    location:'Bangalore'},
    {key:'2', name:'BBB', field:'Hardware',
    location:'Bangalore'},
    {key:'3', name:'CCC', field:'SW&HW', location:'Bangalore'}
]

// O/P should be like

// b=[{key:'2', name:'BBB', field:'Software',
location:'Delhi'}]


//Solution
let b= a.map(item=>item.name=='BBB'?{...item,
field:'Software', location:'Delhi'}:item)

var filter=b.filter(item=>item.name=='BBB')
console.log(filter)

//{key: "2", name: "BBB", field: "Software", location:
"Delhi"}
```

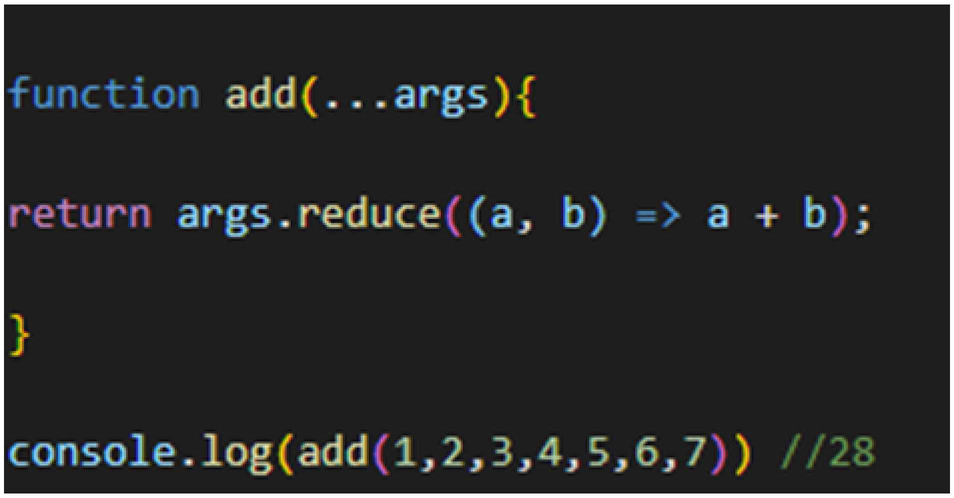
11.


```
//Destructruing

var obj={name:'Raj',address:{city:"Noida"}}

const{name,address:{city}}=obj
console.log(city) //Noida
```

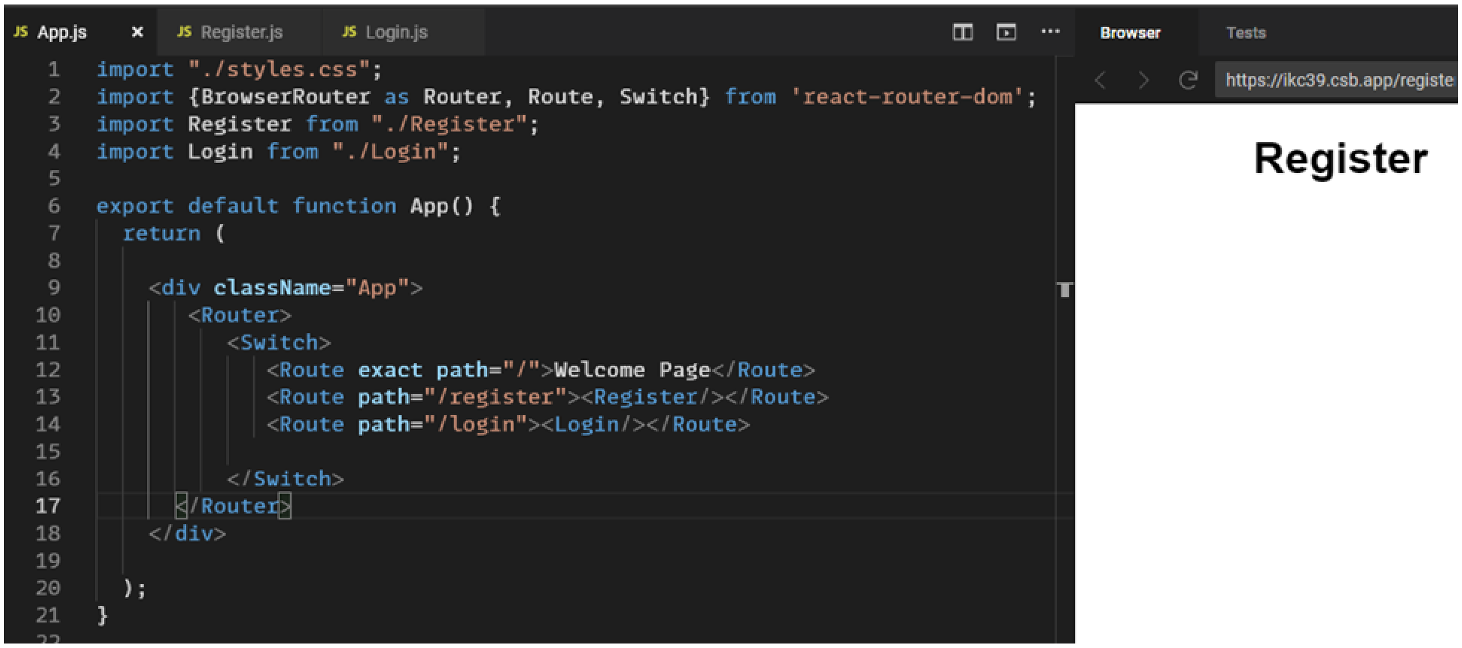
Output


```
var a={no1:10};
var b=a;

b.no1++

console.log(a,b) //11,11
```

Add Function

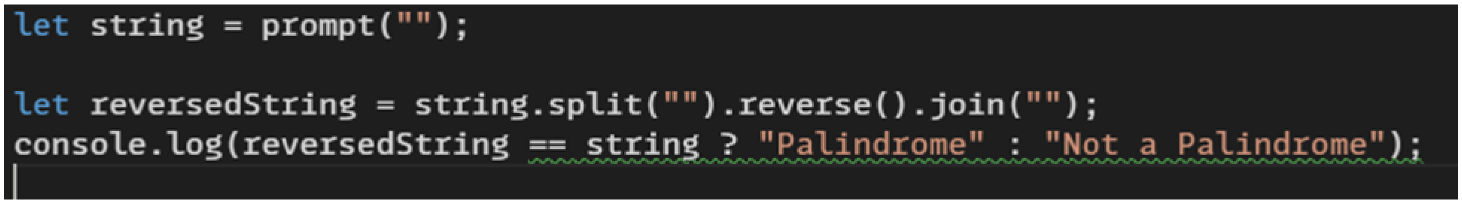

```
function add(...args){

return args.reduce((a, b) => a + b);

}

console.log(add(1,2,3,4,5,6,7)) //28
```

12. React Router Example:

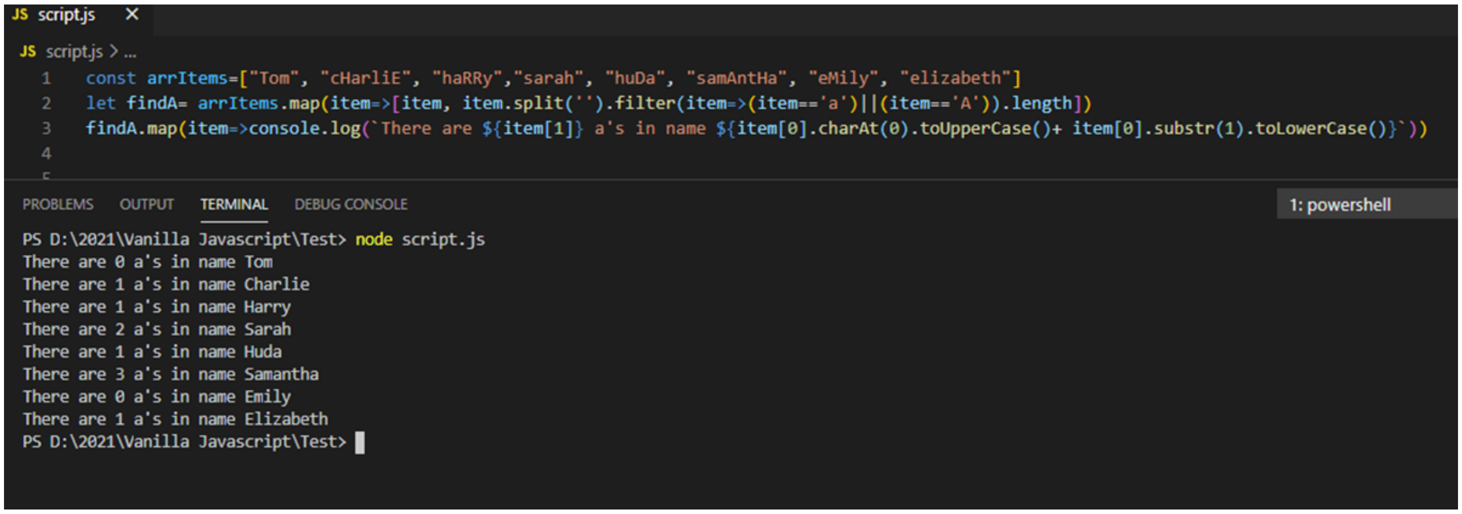


```
import "./styles.css";
import {BrowserRouter as Router, Route, Switch} from 'react-router-dom';
import Register from "./Register";
import Login from "./Login";

export default function App() {
  return (

    <div className="App">
      <Router>
        <Switch>
          <Route exact path="/">Welcome Page</Route>
          <Route path="/register"><Register/></Route>
          <Route path="/login"><Login/></Route>

        </Switch>
      </Router>
    </div>

  );
}
```

13. Palindrome



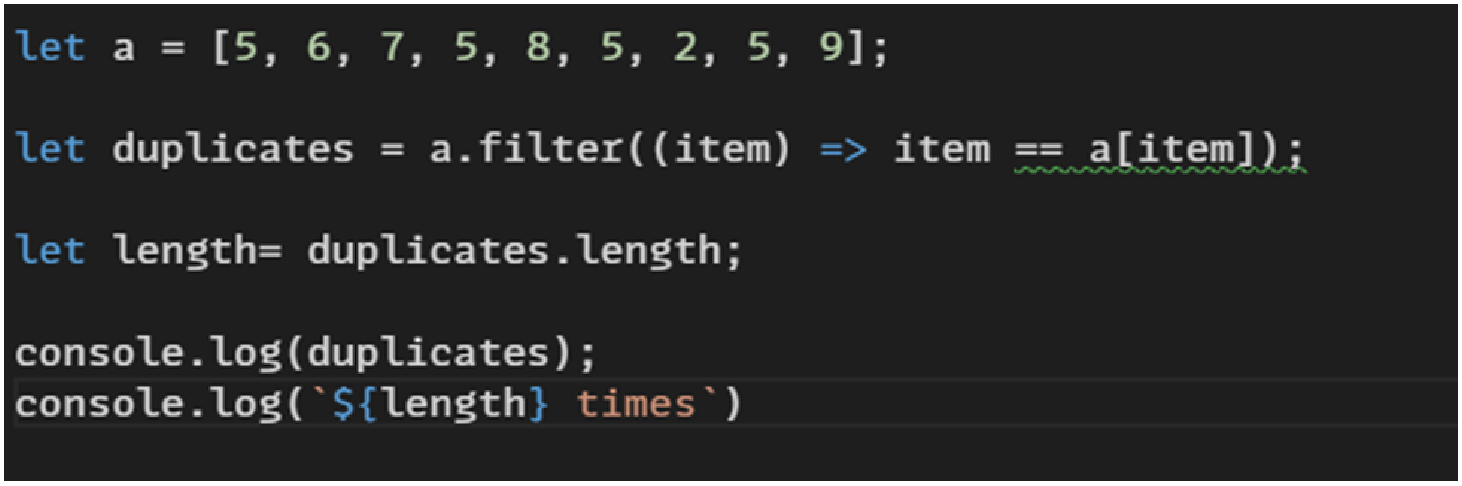
```
let string = prompt("");

let reversedString = string.split("").reverse().join("");
console.log(reversedString == string ? "Palindrome" : "Not a Palindrome");
```



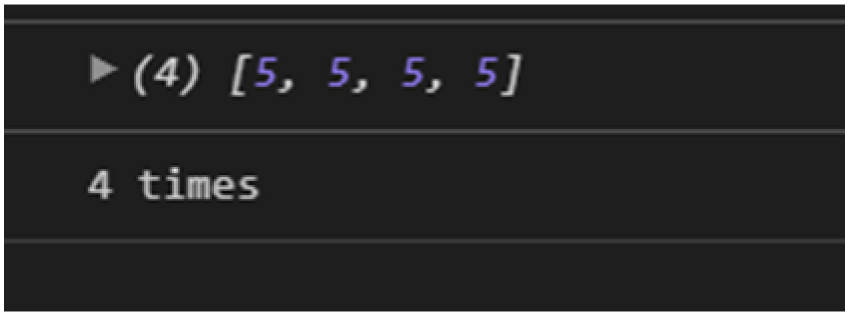
```
const arrItems=["Tom", "cHarliE", "haRRy","sarah", "huDa", "samAntHa", "eMily", "elizabeth"]
let findA= arrItems.map(item=>[item, item.split('').filter(item=>(item=='a')||(item=='A')).length])
findA.map(item=>console.log(`There are ${item[1]} a's in name ${item[0].charAt(0).toUpperCase()+ item[0].substr(1).toLowerCase()}`))
```

```
PS D:\2021\Vanilla Javascript\Test> node script.js
There are 0 a's in name Tom
There are 1 a's in name Charlie
There are 1 a's in name Harry
There are 2 a's in name Sarah
There are 1 a's in name Huda
There are 3 a's in name Samantha
There are 0 a's in name Emily
There are 1 a's in name Elizabeth
PS D:\2021\Vanilla Javascript\Test>
```

14. Count the duplicate number that has repeated more number of times



```
let a = [5, 6, 7, 5, 8, 5, 2, 5, 9];

let duplicates = a.filter((item) => item == a[item]);

let length= duplicates.length;

console.log(duplicates);
console.log(`${length} times`)
```



```
▶ (4) [5, 5, 5, 5]

4 times
```