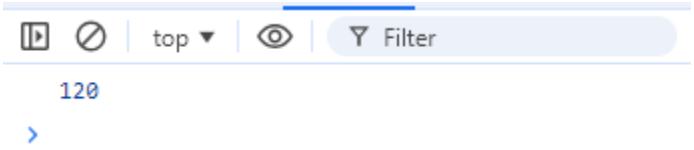
TASK 1

```
<!DOCTYPE html>
<html lang="en">
<head>
   <meta charset="UTF-8">
   <meta name="viewport" content="width=device-width, initial-scale=1.0">
   <title>TASK</title>
</head>
<body>
   <script>
      function fact(n){
         if(n==0)
         return 1
      else{
         return n*fact(n-1);
      }
      }
     console.log(fact(5))
   </script>
</body>
</html>
```

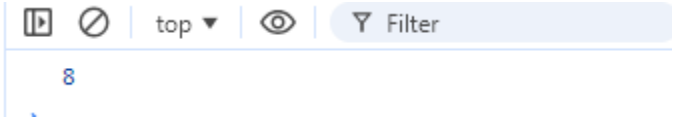
OUTPUT



TASK 2

```
<!DOCTYPE html>
<html lang="en">
<head>
   <meta charset="UTF-8">
   <meta name="viewport" content="width=device-width, initial-scale=1.0">
   <title>TASK</title>
</head>
<body>
   <script>
      function fibo(n){
         if(n<=1)
         return 0
         if(n==2)
         return 1
         return fibo(n-1)+fibo(n-2)
      }
     console.log(fibo(6))
   </script>
</body>
</html>
```

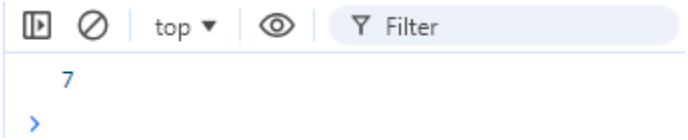
OUTPUT



TASK 3

```
<!DOCTYPE html>
<html lang="en">
<head>
   <meta charset="UTF-8">
   <meta name="viewport" content="width=device-width, initial-scale=1.0">
   <title>TASK</title>
</head>
<body>
   <script>
      function countWays(n){
         if(n<0)
         return 0
         if(n==0)
         return 1
         return countWays(n - 1) + countWays(n - 2) + countWays(n - 3);
      }
     console.log(countWays(4))
   </script>
</body>
</html>
```

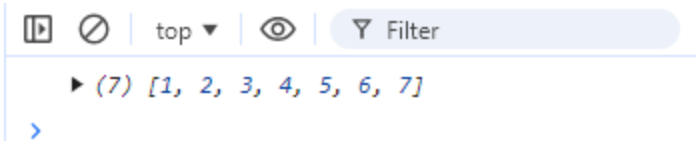
OUTPUT



TASK 4

```
<!DOCTYPE html>
<html lang="en">
<head>
   <meta charset="UTF-8">
   <meta name="viewport" content="width=device-width, initial-scale=1.0">
   <title>TASK</title>
</head>
<body>
   <script>
     function flattenArray(arr) {
      let result = [];
      for (let i = 0; i < arr.length; i++) {
         if (Array.isArray(arr[i])) {
            result = result.concat(flattenArray(arr[i]));
         } else {
            result.push(arr[i]);
         }
      }
      return result;
   }
   console.log(flattenArray([1, [2, 3], [4, [5, 6]], 7]));
   </script>
</body>
</html>
```

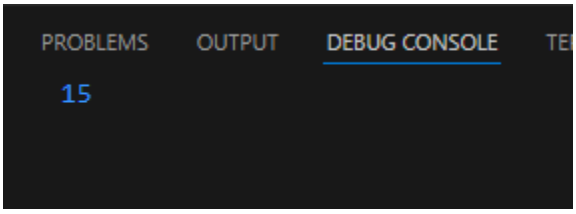
OUTPUT



TASK 5

```
<!DOCTYPE html>
<html lang="en">
<head>
   <meta charset="UTF-8">
   <meta name="viewport" content="width=device-width, initial-scale=1.0">
   <title>Task</title>
</head>
<body>
   <script>
      var c=0;
      function towerOfHanoi(n, from_rod,  to_rod,  aux_rod){
      if (n == 0)
      {
         return;
      }
      towerOfHanoi(n - 1, from_rod, aux_rod, to_rod);
      c++;
      towerOfHanoi(n - 1, aux_rod, to_rod, from_rod);
      }
      var N =4 ;
      towerOfHanoi(N, 'A', 'C', 'B');
      console.log(c);
   </script>
</body>
</html>
```

OUTPUT



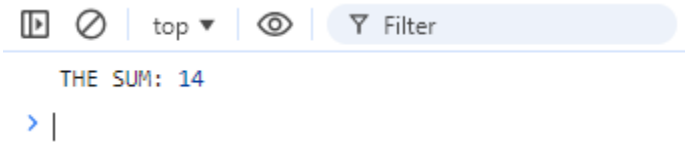
TASK 6

```
<!DOCTYPE html>
<html lang="en">
<head>
   <meta charset="UTF-8">
   <meta name="viewport" content="width=device-width, initial-scale=1.0">
   <title>TASK</title>
</head>
<body>
   <script>
     function sum(...a){
      return a.reduce((s,e)=>s+e,0)
      }

   console.log("THE SUM:",sum(2,3,9));
```

```
   </script>
</body>
</html>
```

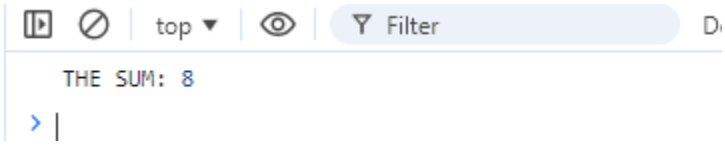
OUTPUT



TASK 7

```
<!DOCTYPE html>
<html lang="en">
<head>
   <meta charset="UTF-8">
   <meta name="viewport" content="width=device-width, initial-scale=1.0">
   <title>TASK</title>
</head>
<body>
   <script>
      function sum(...a){
       return a.reduce((s,e)=>s+e,0)
      }
   arr=[1,5,2]
   console.log("THE SUM:",sum(...arr));
   </script>
</body>
</html>
```

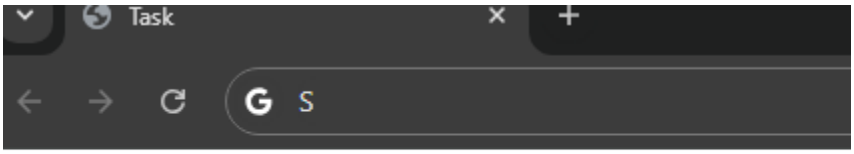
OUTPUT



TASK 8

```
<!DOCTYPE html>
<html lang="en">
<head>
   <meta charset="UTF-8">
   <meta name="viewport" content="width=device-width, initial-scale=1.0">
   <title>Task</title>
</head>
<body>
   <script>
      var car={
         company:"Benz",
         model:"e-class",
         colour:"black"
      }
      var c=JSON.stringify(car)
      document.write(c)
      console.log(car);
   </script>
</body>
</html>
```

OUTPUT



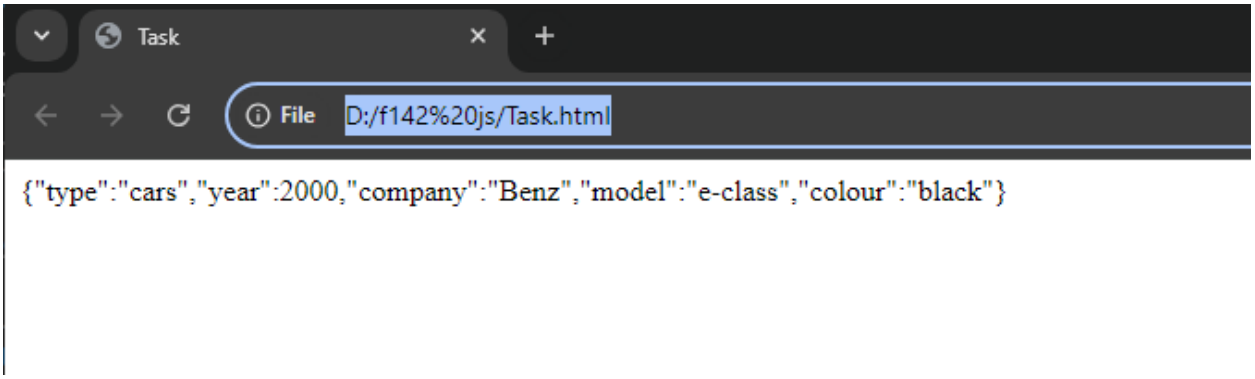
{"company":"Benz","model":"e-class","colour":"black"}

TASK 9

```
<!DOCTYPE html>
<html lang="en">
<head>
   <meta charset="UTF-8">
   <meta name="viewport" content="width=device-width, initial-scale=1.0">
   <title>Task</title>
</head>
<body>
   <script>
      var vehicle={
         type:"cars",
         year:2000
      };
      var car={
         company:"Benz",
         model:"e-class",
         colour:"black"
      }
      var car_detais={...vehicle,...car}

      var c=JSON.stringify(car_detais)
      document.write(c)
      console.log(car_detais);
   </script>
</body>
</html>
```

OUTPUT

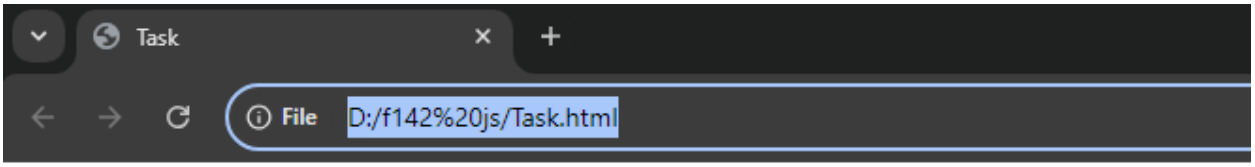


TASK 10

```
<!DOCTYPE html>
<html lang="en">
<head>
   <meta charset="UTF-8">
   <meta name="viewport" content="width=device-width, initial-scale=1.0">
   <title>Task</title>
</head>
<body>
   <script>
      var vehicle={
         type:"cars",
         year:2000
      };
      var car={
         company:"Benz",
         model:"e-class",
         colour:"black"
      }
      var car_detais={...vehicle,...car}

      var c=JSON.stringify(car_detais)
      document.write(c+"<BR>")
      document.write(JSON.parse(c));
      console.log(c);
   </script>
</body>
</html>
```

OUTPUT



{"type":"cars","year":2000,"company":"Benz","model":"e-class","colour":"black"}
[object Object]

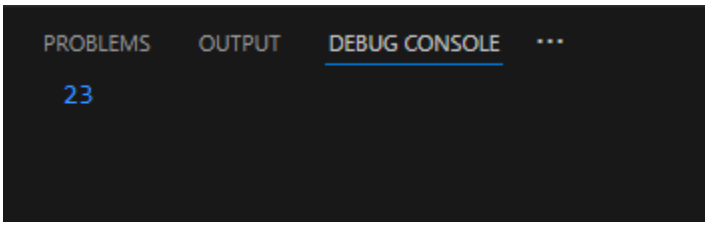
TASK 11

```
<!DOCTYPE html>
<html lang="en">
<head>
   <meta charset="UTF-8">
   <meta name="viewport" content="width=device-width, initial-scale=1.0">
   <title>Task</title>
</head>
<body>
   <script>
      var outfunc=(x)=>{
```

```
        return (y)=>x+y
    }
    var outer=outfunc(11)
    console.log(outer(12));

  </script>
</body>
</html>
```

OUTPUT



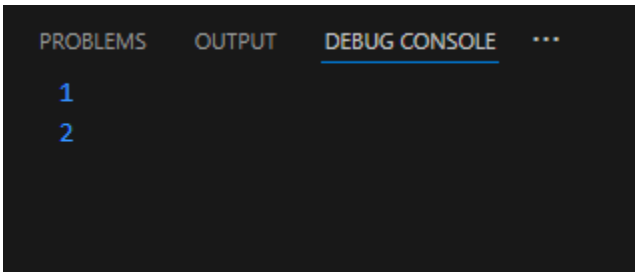
TASK 12

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Task</title>
</head>
<body>
  <script>

    var counter=(x)=>{
      let c=0
      return ()=>{c++;console.log(c)};

    }
    var outer=counter()
    outer();
    outer();
  </script>
</body>
</html>
```

OUTPUT



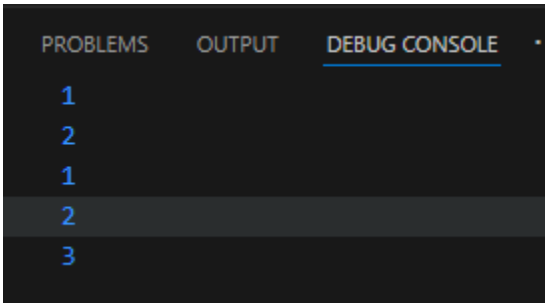
TASK 13

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Task</title>
</head>
<body>
    <script>

        var counter=(x)=>{
            let c=0
            return ()=>{c++;console.log(c)};

        }
        var outer=counter()
        outer();
        outer();
        var inner=counter()
        inner()
        inner()
        inner()
    </script>
</body>
</html>
```

OUTPUT



\TASK 14

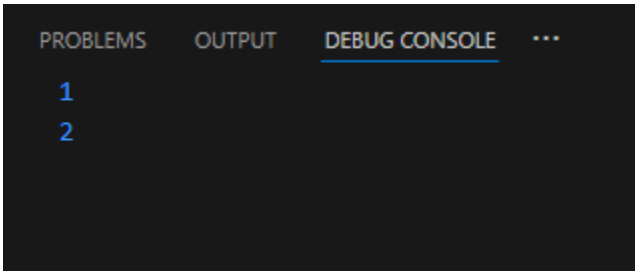
```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Task</title>
</head>
<body>
    <script>

        var counter=(x)=>{
            let c=0
            return ()=>{c++;console.log(c)};

        }
```

```
        var outer=counter()
        outer();
        outer();
    </script>
</body>
</html>
```

OUTPUT



TASK 15

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Task</title>
</head>
<body>
    <script>
        var func=(a)=>{
            if(a=="positive")
            return (x)=>x*1;
            if(a=="negative")
            return (x)=>x*-1
        }
        var positive=func("positive");
        var negative=func("negative");
        console.log(positive(2));
        console.log(negative(2));
    </script>
</body>
</html>
```

OUTPUT