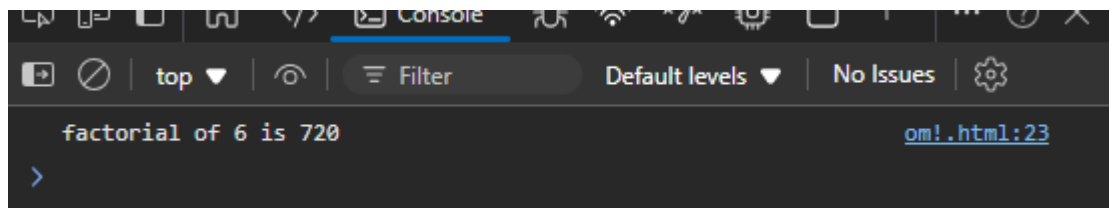


TASK 1:

```
<!DOCTYPE html>
<html lang="en">
  <head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width,initial-scale=1">
    <title> document</title>
  </head>
  <body>
    <script>
      function factorial(n)
      {
        if(n!=0)
        {
          return n * factorial(n - 1);
        }
        else
        {
          return 1;
        }
      }
      let num=prompt("enter num1");
      console.log("factorial of "+num+ " is " +factorial(num));
    </script>
  </body>
</html>
```

OUTPUT:



TASK 2:

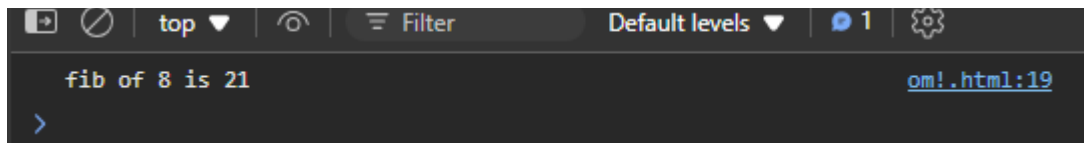
```
<!DOCTYPE html>
<html lang="en">
  <head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width,initial-scale=1">
    <title> document</title>
  </head>
  <body>
```

```

<script>
  function fib(n)
  {
    if(n>1)
      return fib(n-1) + fib(n-2) ;
    return n;//n=0,n=1
  }
  let n=prompt("enter num1");
  console.log("fib of "+n+ " is " +fib(n));
</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">
    <title> document</title>
  </head>
  <body>
    <script>
      function staircase(n){
        if(n === 0)
          return 1;
        if(n < 0)
          return 0;
        return staircase(n-1) + staircase(n-2) + staircase(n-3);
      }
      let n=prompt("enter n");
      console.log(staircase(n));
    </script>
  </body>
</html>

```

OUTPUT:



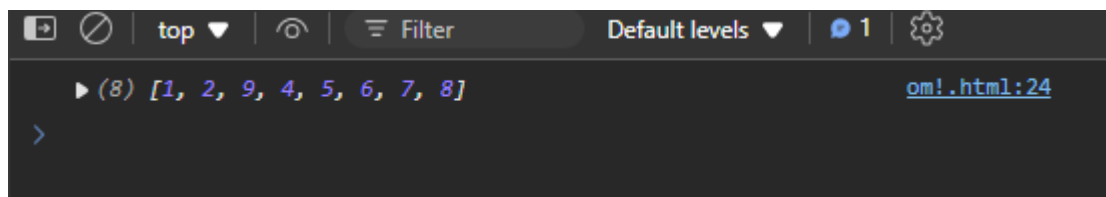
TASK 4:

```

<!DOCTYPE html>
<html lang="en">
  <head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width,initial-scale=1">
    <title> document</title>
  </head>
  <body>
    <script>
      function flatten(arr) {
        let result = [];
        arr.forEach(item => {
          if (Array.isArray(item)) {
            result = result.concat(flatten(item));
          } else {
            result.push(item);
          }
        });
        return result;
      }
      const nestedArray = [1, [2, 3], [4, [5, 6]], 7, [8]];
      const flattenedArray = flatten(nestedArray);
      console.log(flattenedArray);
    </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">
    <title> document</title>
  </head>
  <body>
    <script>
      function towerOfHanoi(n, from_rod, to_rod, aux_rod)
      {
        if (n == 0)

```

```
        {
            return;
        }
        towerOfHanoi(n - 1, from_rod, aux_rod, to_rod);
        document.write("Move disk " + n + " from rod " + from_rod +
            " to rod " + to_rod + "<br/>");
        towerOfHanoi(n - 1, aux_rod, to_rod, from_rod);
    }
    var N = 3;
    towerOfHanoi(N, 'A', 'C', 'B');
</script>
</script>
</body>
</html>
```

OUTPUT:

Move disk 1 from rod A to rod C
Move disk 2 from rod A to rod B
Move disk 1 from rod C to rod B
Move disk 3 from rod A to rod C
Move disk 1 from rod B to rod A
Move disk 2 from rod B to rod C
Move disk 1 from rod A to rod C