Q 1.) Write a program in javascript to create a pattern like this

```
         1
       1 2 3
     1 2 3 4 5
   1 2 3 4 5 6 7
 1 2 3 4 5 6 7 8 9
```

Ans 1. --> Logic

JS trangle.js   X

JS trangle.js > ...

```javascript
You, 15 minutes ago | 1 author (You)
1   // -------------trangle pattern--------------
2
3   // user can take input from terminal
4   const readline = require("readline");
5   const rl = readline.createInterface({
6     input: process.stdin,
7     output: process.stdout,
8   });
9
    tabnine: test | explain | document | ask
10  rl.question("Enter the number of rows: ", (rows) => {
11    rows = parseInt(rows, 10);
12
13    // Pattern variable carries the final pattern in string format
14    let pattern = "";
15
16    // Outer loop runs for `rows` number of times
17    for (let n = 1; n <= rows; n++) {
18      // Inner Loop I -> prints spaces
19      for (let space = 1; space <= rows - n; space++) {
20        pattern += " ";
21      }
22
23      // Inner Loop II -> prints num pattern
24      for (let num = 1; num <= 2 * n - 1; num++) {
25        pattern += num + " ";
26      }
27      pattern += "\n";
28    } <- #17-28 for (let n = 1; n <= rows; n++)
29
30    // Print result pattern
31    console.log(pattern);
32
33    rl.close();
34  }); <- #10-34 rl.question
35  |
```

Ans 1. --> output :

```
91721@NARESH-PC MINGW64 ~/Pictures/Praveen's Files/Geekster/M4/javaScript/Assignment2/cw (main)
$ node trangle.js
Enter the number of rows: 5
        1
      1 2 3
    1 2 3 4 5
  1 2 3 4 5 6 7
1 2 3 4 5 6 7 8 9
```

Q 2.) Write a program in javascript to
create a pattern like this

```
1
2 1
3 2 1
4 3 2 1
5 4 3 2 1
4 3 2 1
3 2 1
2 1
1
```

Ans 2. --> Logic

File   Edit   Selection   View   Go   Run   ...   ← →

JS leftTrangle.js ✕

JS leftTrangle.js > ...
       You, 18 minutes ago | 1 author (You)
1   // ----------------left side pattern--------------------------
2
3   // user can take input from terminal
4   const readline = require("readline");
5   const rl = readline.createInterface({
6   input: process.stdin,
7   output: process.stdout,
8   });
9
       tabnine: test | explain | document | ask
10   rl.question("Enter the number of rows: ", (answer) => {
11   let rows = parseInt(answer);
12   let pattern = "";
13
14   // First part: upper half of the pattern
15   for (let n = 1; n <= rows; n++) {
16   for (let j = n; j >= 1; j--) {
17   pattern += j + " ";
18   }
19   pattern += "\n";
20   } <- #15-20 for (let n = 1; n <= rows; n++)
21
22   // Second part: lower half of the pattern
23   for (let n = rows - 1; n >= 1; n--) {
24   for (let j = n; j >= 1; j--) {
25   pattern += j + " ";
26   }
27   pattern += "\n";
28   } <- #23-28 for (let n = rows - 1; n >= 1; n--)
29
30   // Print the result pattern
31   console.log(pattern);
32
33   rl.close();
34   }); <- #10-34 rl.question
35
```

Ans 2. --> output :

```
91721@NARESH-PC MINGW64 ~/Pictures/Praveen's Files/Geekster/M4/javaScript/Assignment2/cw (main)
$ node leftTrangle.js
Enter the number of rows: 5
1
2 1
3 2 1
4 3 2 1
5 4 3 2 1
4 3 2 1
3 2 1
2 1
1
```

Q 3.) Write a program in javascript to create a pattern like this

```
        1
      1 2
    1 2 3
  1 2 3 4
1 2 3 4 5
  1 2 3 4
    1 2 3
      1 2
        1
```

Ans 3. --> Logic

File   Edit   Selection   View   Go   Run   ...   ← →

JS rightTrangle.js > ...

You, 1 second ago | 1 author (You)

```javascript
1   // --------------------------Right side pattern ------------------
2   // user can take input from terminal
3   const readline = require("readline");
4   const rl = readline.createInterface({
5     input: process.stdin,
6     output: process.stdout,
7   });
```

tabnine: test | explain | document | ask

```javascript
8   rl.question("Enter the number of rows: ", (answer) => {
9     let rows = parseInt(answer);
10    let pattern = "";
11
12    // First part: upper half of the pattern
13    for (let n = 1; n <= rows; n++) {
14      // Inner Loop I -> prints spaces
15      for (let space = 1; space <= rows - n; space++) {
16        pattern += "  ";
17      }
18      // Inner Loop II -> prints num pattern
19      for (let j = 1; j <= n; j++) {
20        pattern += j + " ";
21      }
22      pattern += "\n";
23    } <- #13-23 for (let n = 1; n <= rows; n++)
24
25    // Second part: lower half of the pattern
26    for (let n = rows - 1; n >= 1; n--) {
27      // Inner Loop I -> prints spaces
28      for (let space = 1; space <= rows - n; space++) {
29        pattern += "  ";
30      }
31      // Inner Loop II -> prints num pattern
32      for (let j = 1; j <= n; j++) {
33        pattern += j + " ";
34      }
35      pattern += "\n";
36    } <- #26-36 for (let n = rows - 1; n >= 1; n--)
37    // Print the result pattern
38    console.log(pattern);
39    rl.close();
40  }); <- #8-40 rl.question
41
```

Ans 3. --> output :

```
91721@NARESH-PC MINGW64 ~/Pictures/Praveen's Files/Geekster/M4/javaScript/Assignment2/cw (main)
$ node rightTrangle.js
Enter the number of rows: 5
        1
      1 2
    1 2 3
  1 2 3 4
1 2 3 4 5
  1 2 3 4
    1 2 3
      1 2
        1
```

Q 4.) Write a program in javascript to
create a pattern like this

```
1 2 3 4 5 6 7 8 9
  1 2 3 4 5 6 7
    1 2 3 4 5
      1 2 3
        1
```

Ans 4. --> Logic

File   Edit   Selection   View   Go   Run   ...   ← →

JS reverseTrangle.js ✕

JS reverseTrangle.js > ...

```javascript
1   // ----------------reverse trangle pattern----------------
2
3   // user can take input from terminal
4   const readline = require("readline");
5   const rl = readline.createInterface({
6     input: process.stdin,
7     output: process.stdout,
8   });
9
    tabnine: test | explain | document | ask
10  rl.question("Enter the number of rows: ", (rows) => {
11    rows = parseInt(rows, 10);
12
13    // Pattern variable carries the final pattern in string format
14    let pattern = "";
15
16    // Outer loop runs for `rows` number of times in reverse order
17    for (let n = rows; n >= 1; n--) {
18      // Inner Loop I -> prints spaces
19      for (let space = 1; space <= rows - n; space++) {
20        pattern += "  ";
21      }
22
23      // Inner Loop II -> prints num pattern
24      for (let num = 1; num <= 2 * n - 1; num++) {
25        pattern += num + " ";
26      }
27      pattern += "\n";
28    } <- #17-28 for (let n = rows; n >= 1; n--)
29
30    // Print result pattern
31    console.log(pattern);
32
33    rl.close();
34  }); <- #10-34 rl.question
35
```

Ans 4. --> output :

```
91721@NARESH-PC MINGW64 ~/Pictures/Praveen's Files/Geekster/M4/javaScript/Assignment2/cw (main)
$ node reverseTrangle.js
Enter the number of rows: 5
1 2 3 4 5 6 7 8 9
  1 2 3 4 5 6 7
    1 2 3 4 5
      1 2 3
        1
```