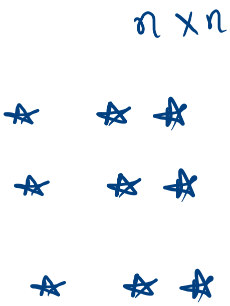
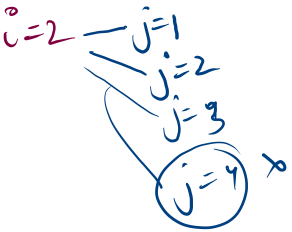
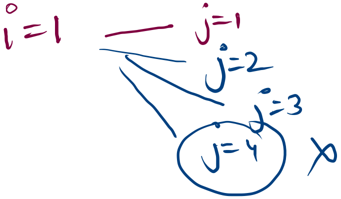
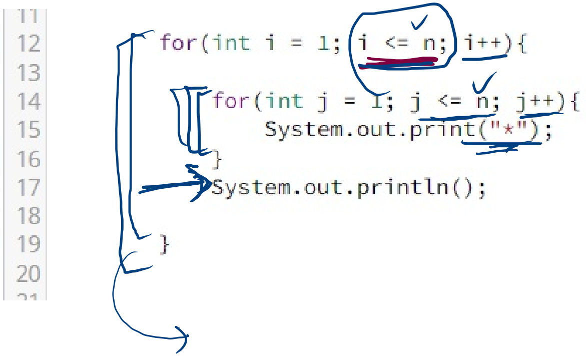


n=3







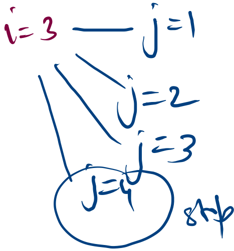
```
for(int i = 1; i <= n; i++){

    for(int j = 1; j <= n; j++){
        System.out.print("*");
    }
    System.out.println();

}
```

i=~~1~~ ~~2~~ ~~3~~ 4

n=3

$4 \le 3$ false.

$3 \le 3$ ✓



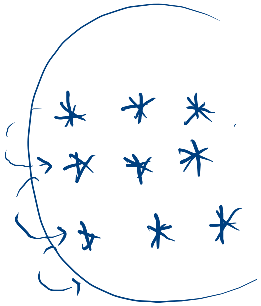
j=~~1~~ ~~2~~ ~~3~~ 4

$1 \le 3$ ✓

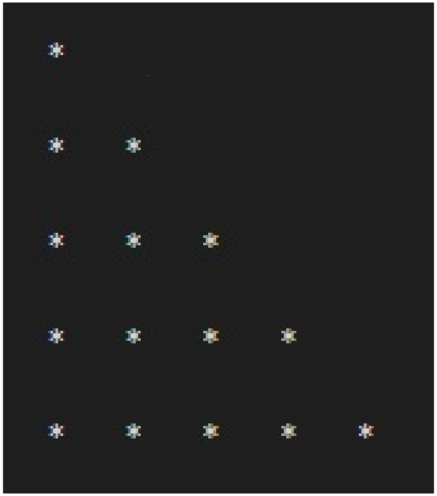
$2 \le 3$ ✓

$3 \le 3$ ✓

$4 \le 3$ x



Patterns.



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

row 1 = 1

row 2 = 2

row 3 = 3

row

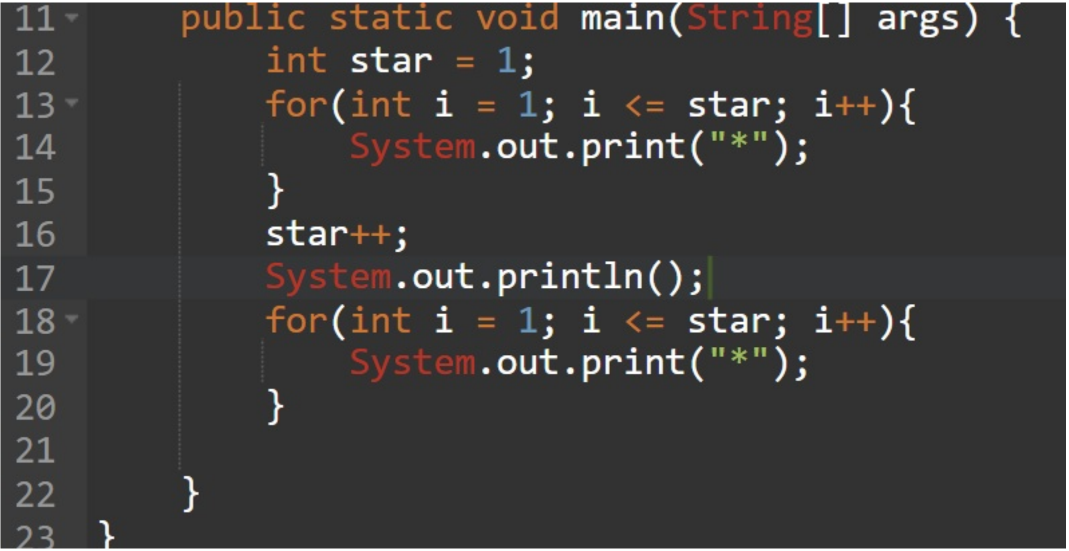
+1

+1

1. rows?

2.

star = ~~1~~ 2



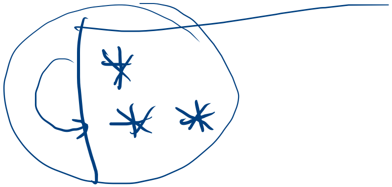
```
    public static void main(String[] args) {
        int star = 1;
        for(int i = 1; i <= star; i++){
            System.out.print("*");
        }
        star++;
        System.out.println();
        for(int i = 1; i <= star; i++){
            System.out.print("*");
        }

    }
}
```

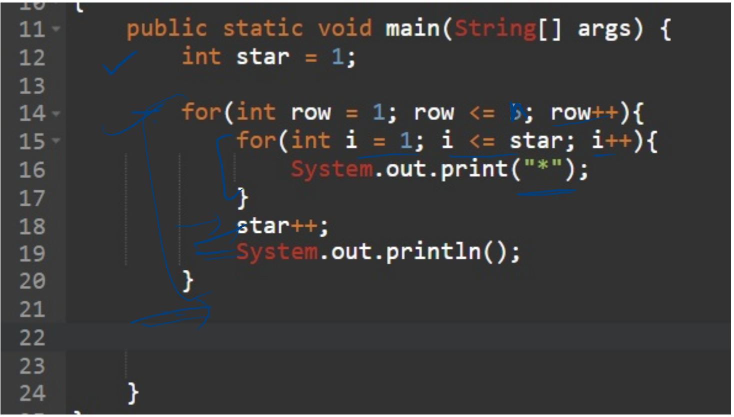
i = ~~1~~ ~~2~~ 3

1 ≤ 2 ✓

2 ≤ 2 ✓

3 ≤ 2 ✗





```
    public static void main(String[] args) {
        int star = 1;

        for(int row = 1; row <= 5; row++){
            for(int i = 1; i <= star; i++){
                System.out.print("*");
            }
            star++;
            System.out.println();
        }


    }
```

n=4

row = ~~1~~ ~~2~~ ~~3~~ ~~4~~ 5

star = ~~1~~ ~~2~~ ~~3~~ ~~4~~ 5

i = ~~1~~ ~~2~~ ~~3~~ ~~4~~ 5

$4 \le n$ ✓

$5 \le 4$ ✗

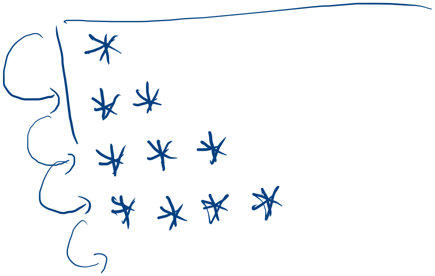
$1 \le 4$

$2 \le 4$ ✓

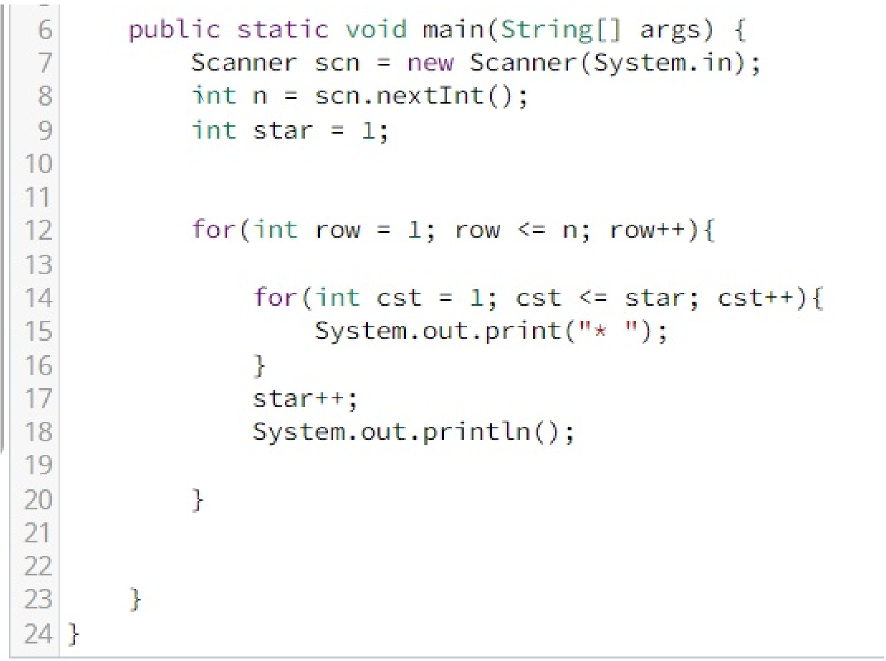
$3 \le 4$ ✓

$4 \le 4$ ✓

$5 \le 4$ ✗



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



```
    public static void main(String[] args) {
        Scanner scn = new Scanner(System.in);
        int n = scn.nextInt();
        int star = 1;


        for(int row = 1; row <= n; row++){

            for(int cst = 1; cst <= star; cst++){
                System.out.print("* ");
            }
            star++;
            System.out.println();

        }


    }
}
```

2 - 3

generic code

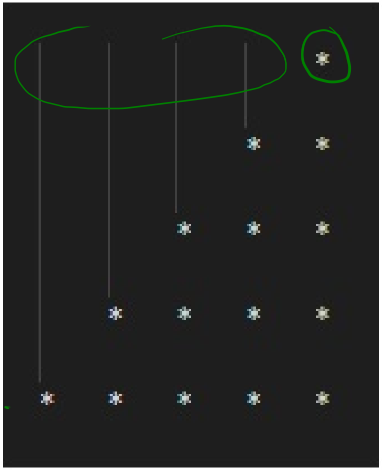
Pattern 5.

n=5

row = n

star = 1

space = n-1



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

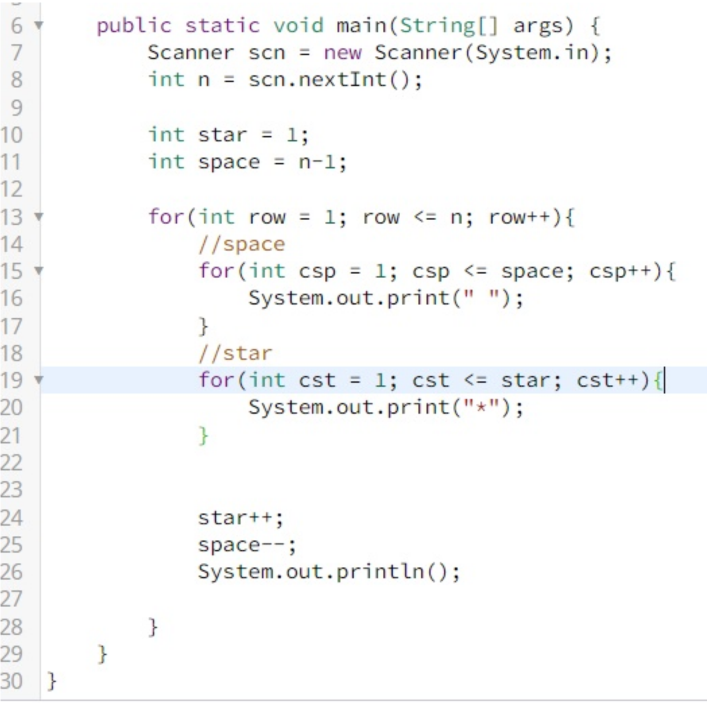
after each row

star ++

space --

pattern -5

no doubts for next 5 mins.



```
    public static void main(String[] args) {
        Scanner scn = new Scanner(System.in);
        int n = scn.nextInt();

        int star = 1;
        int space = n-1;

        for(int row = 1; row <= n; row++){
            //space
            for(int csp = 1; csp <= space; csp++){
                System.out.print(" ");
            }
            //star
            for(int cst = 1; cst <= star; cst++){
                System.out.print("*");
            }


            star++;
            space--;
            System.out.println();

        }
    }
}
```

n=4

star = ~~1~~ ~~2~~ ~~3~~ ~~4~~ 5

space = ~~3~~ ~~2~~ ~~1~~ ~~0~~ -1

cst = ~~1~~ ~~2~~ ~~3~~ ~~4~~ 5

cst ≤ 4

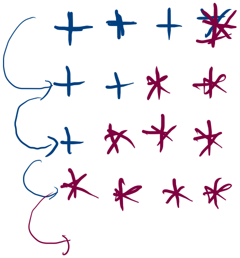
1 ≤ 4 ✓

2 ≤ 4

3 ≤ 4

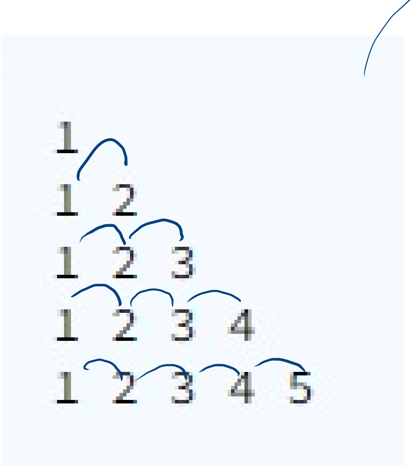
4 ≤ 4

5 ≤ 4 ✗

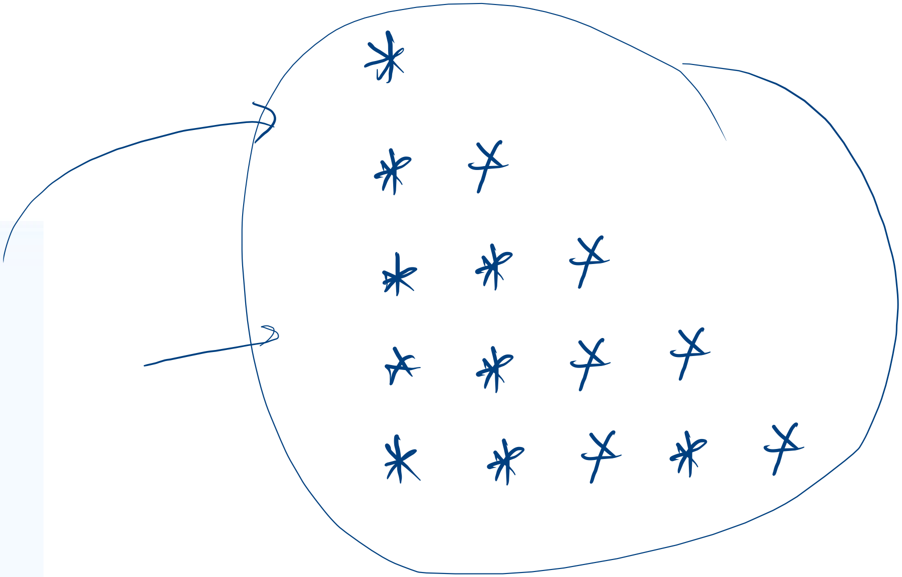


```
+ + + *
+ + * *
+ * * *
* * * *
```

Pattern -2.



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



basic code. ✓

val. = 1

each row

↳ val   val++

Pattern - 2.

n = 3.

1

1 2

1 2 3

1

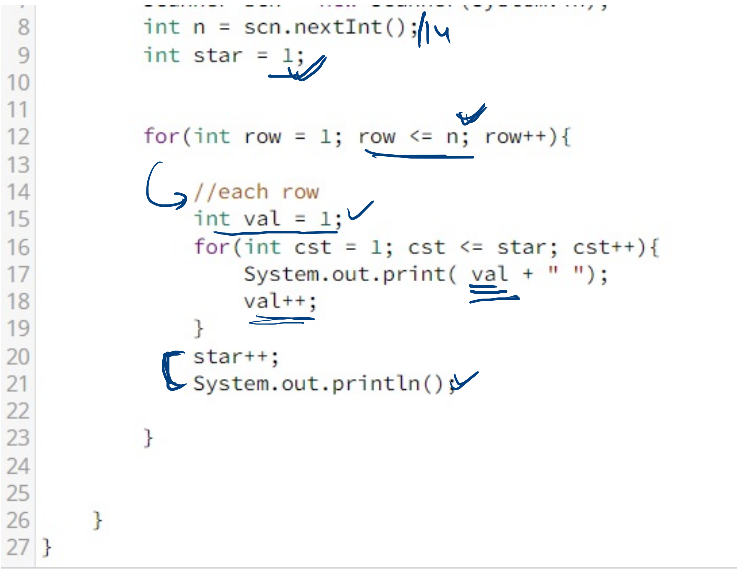
1 2

1 2 3

*

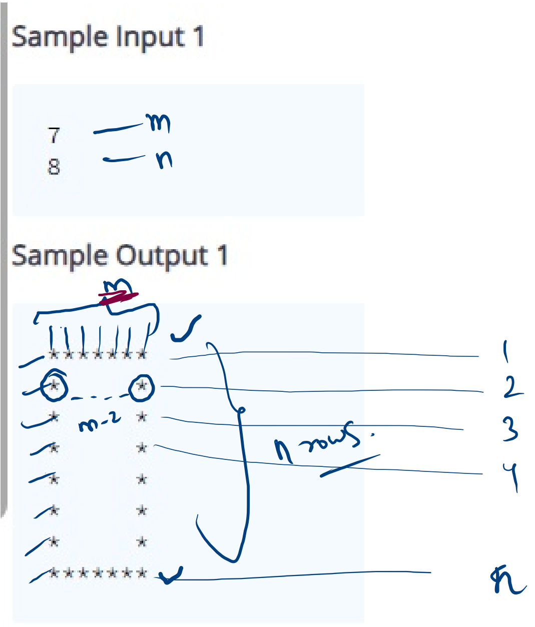
* *

* * *



```
        Scanner scn = new Scanner(System.in);
        int n = scn.nextInt();//4
        int star = 1;


        for(int row = 1; row <= n; row++){

            //each row
            int val = 1;
            for(int cst = 1; cst <= star; cst++){
                System.out.print( val + " ");
                val++;
            }
            star++;
            System.out.println();

        }


    }
}
```

Pattern -7.

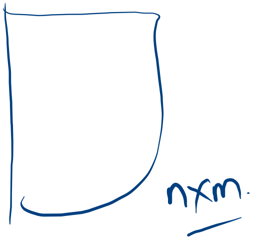


Sample Input 1

```
7
8
```

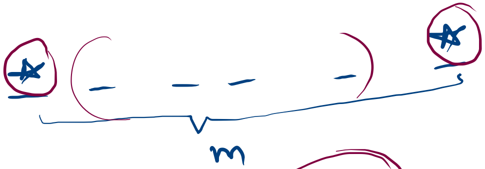
Sample Output 1

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

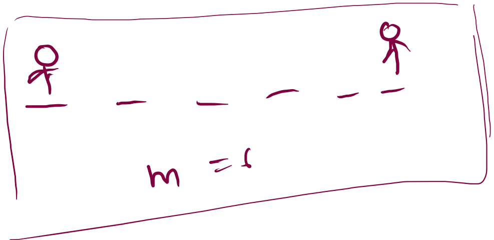


Same { row= 1   row n

Same { rest

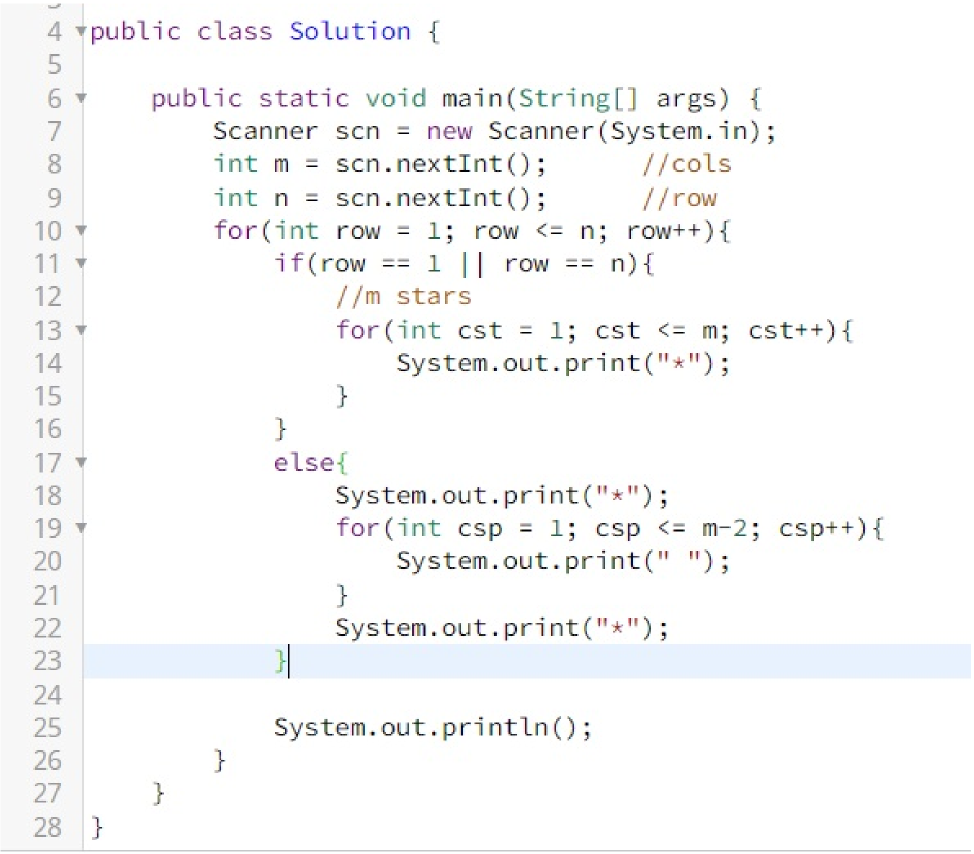


m - 2

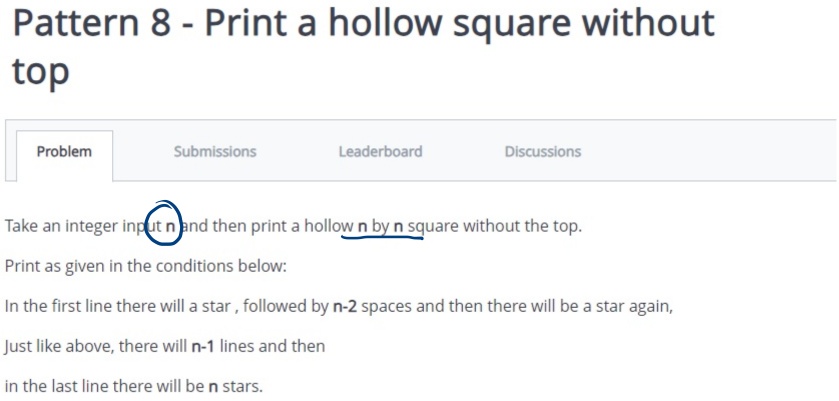


m - 2

m



```
public class Solution {

    public static void main(String[] args) {
        Scanner scn = new Scanner(System.in);
        int m = scn.nextInt();      //cols
        int n = scn.nextInt();      //row
        for(int row = 1; row <= n; row++){
            if(row == 1 || row == n){
                //m stars
                for(int cst = 1; cst <= m; cst++){
                    System.out.print("*");
                }
            }
            else{
                System.out.print("*");
                for(int csp = 1; csp <= m-2; csp++){
                    System.out.print(" ");
                }
                System.out.print("*");
            }

            System.out.println();
        }
    }
}
```



Pattern 8 - Print a hollow square without top

Take an integer input n and then print a hollow n by n square without the top.

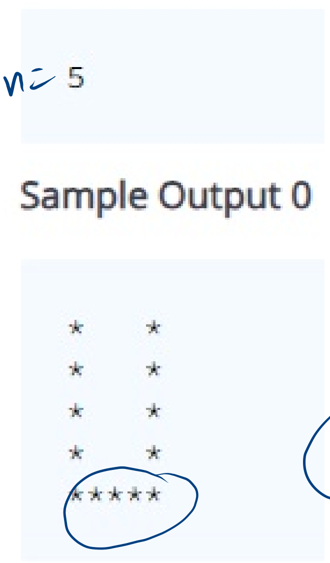
Print as given in the conditions below:

In the first line there will a star , followed by **n-2** spaces and then there will be a star again,

Just like above, there will **n-1** lines and then

in the last line there will be **n** stars.

nxn



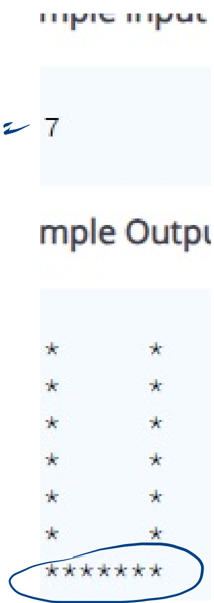
n= 5

n rows.

Sample Output 0

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

row= n

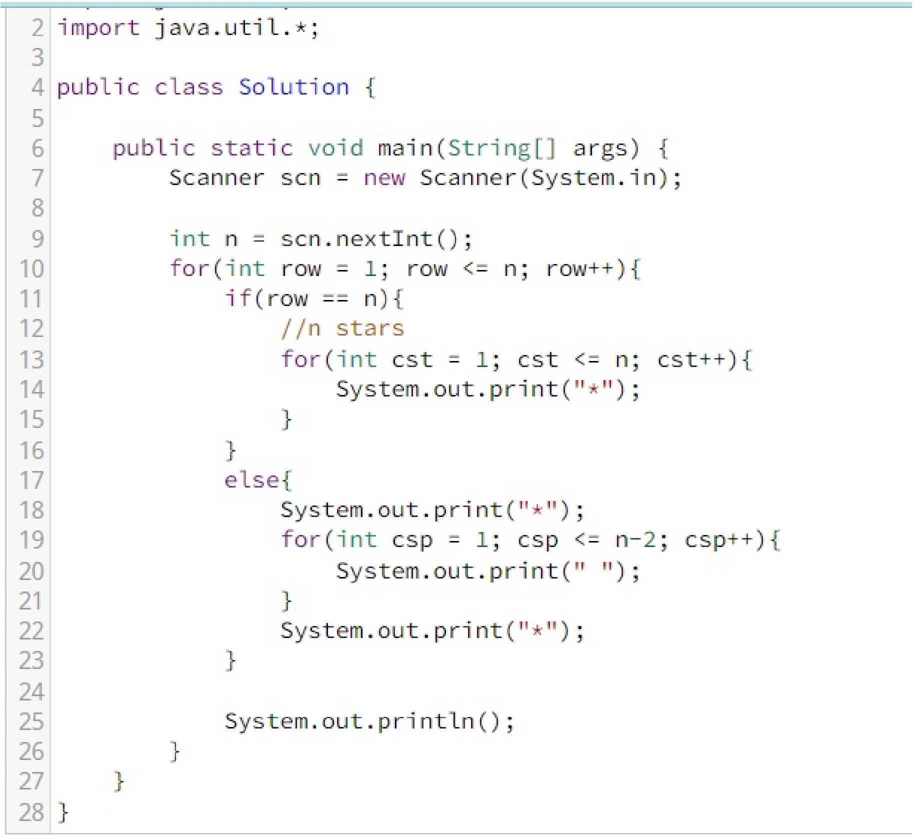


mple Input

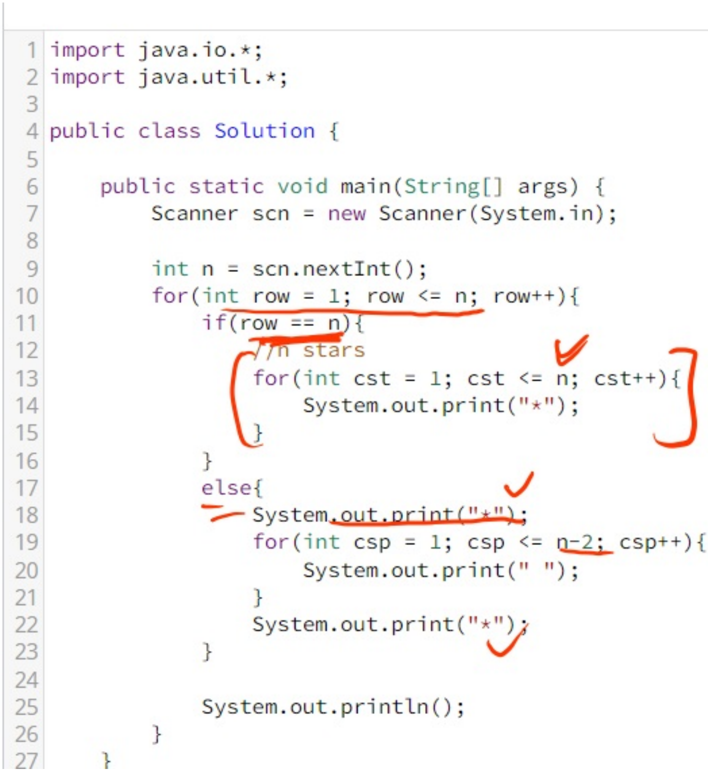
n= 7

mple Outpu

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



```java
import java.util.*;

public class Solution {

    public static void main(String[] args) {
        Scanner scn = new Scanner(System.in);

        int n = scn.nextInt();
        for(int row = 1; row <= n; row++){
            if(row == n){
                //n stars
                for(int cst = 1; cst <= n; cst++){
                    System.out.print("*");
                }
            }
            else{
                System.out.print("*");
                for(int csp = 1; csp <= n-2; csp++){
                    System.out.print(" ");
                }
                System.out.print("*");
            }

            System.out.println();
        }
    }
}
```



```
import java.io.*;
import java.util.*;

public class Solution {

    public static void main(String[] args) {
        Scanner scn = new Scanner(System.in);

        int n = scn.nextInt();
        for(int row = 1; row <= n; row++){
            if(row == n){
                //n stars
                for(int cst = 1; cst <= n; cst++){
                    System.out.print("*");
                }
            }
            else{
                System.out.print("*");
                for(int csp = 1; csp <= n-2; csp++){
                    System.out.print(" ");
                }
                System.out.print("*");
            }

            System.out.println();
        }
    }
```