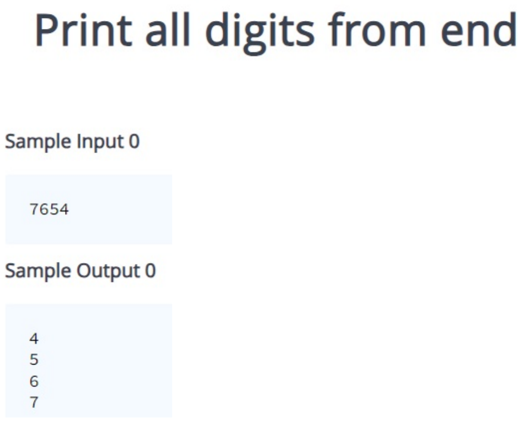


Print all digits from end

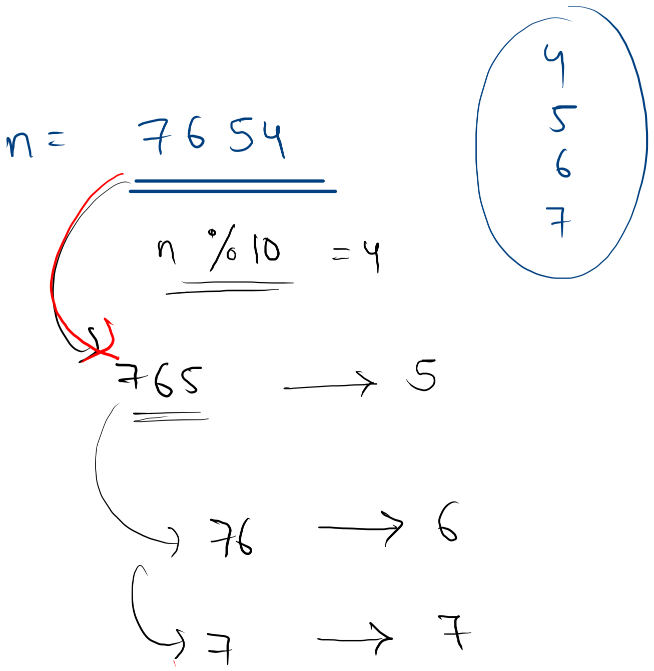
Sample Input 0

```
7654
```

Sample Output 0

```
4
5
6
7
```

7654 → 765.??



1. print ld.

n = 7654

↓

765

↓

76

↓

7

↓

0

n>0.

print(n%10)

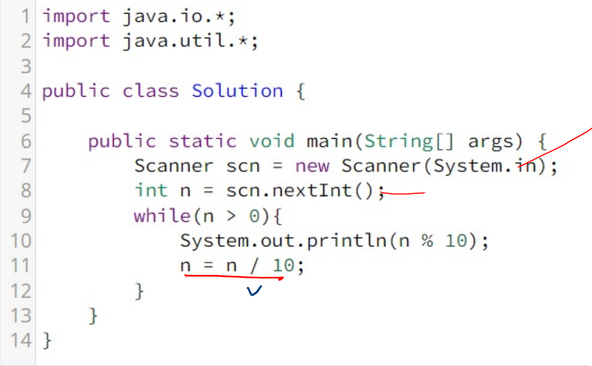
→ n = n/10

10) 7654 (765

7650

4

4



```java
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();
        while(n > 0){
            System.out.println(n % 10);
            n = n / 10;
        }
    }
}
```

n = 123

n > 0

123 > 0

12 > 0

1 > 0

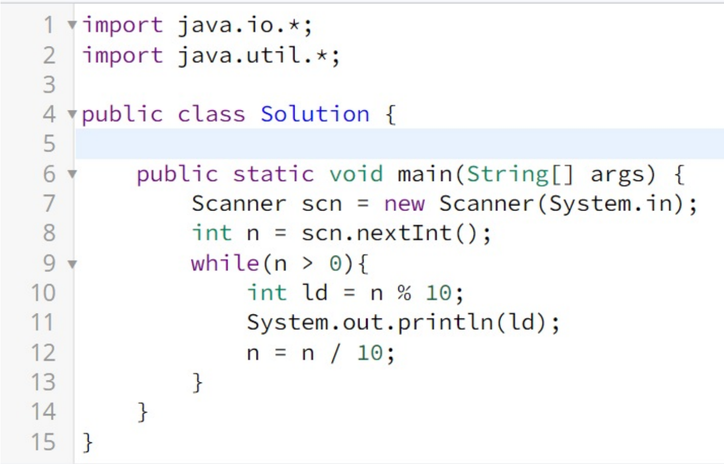
0

n = n % 10

3

2

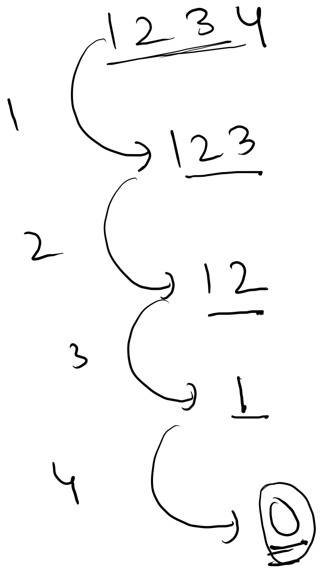
1



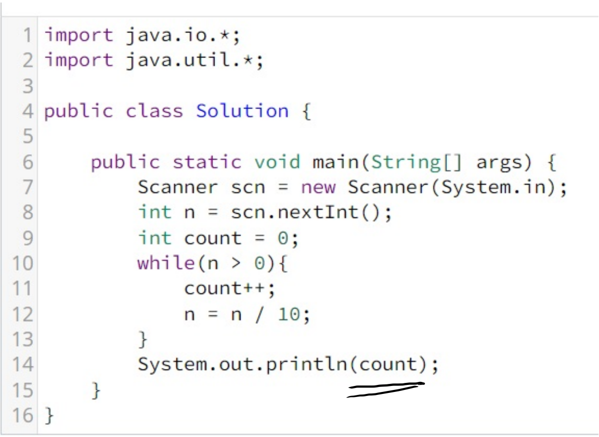
```java
import java.io.*;
import java.util.*;

public class Solution {

    public static void main(String[] args) {
        Scanner scn = new Scanner(System.in);
        int n = scn.nextInt();
        while(n > 0){
            int ld = n % 10;
            System.out.println(ld);
            n = n / 10;
        }
    }
}
```

GKSTR46 Number of Digits

n = 1234. → ans = ? $\boxed{4}$



```
/10
count = 0
n > 0
        n = n/10
        count++;
```



```java
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();
        int count = 0;
        while(n > 0){
            count++;
            n = n / 10;
        }
        System.out.println(count);
    }
}
```

eg → n = 1234

count = $\cancel{0}\ \cancel{1}\ \cancel{2}\ \cancel{3}\ \boxed{4}$

n = 1234

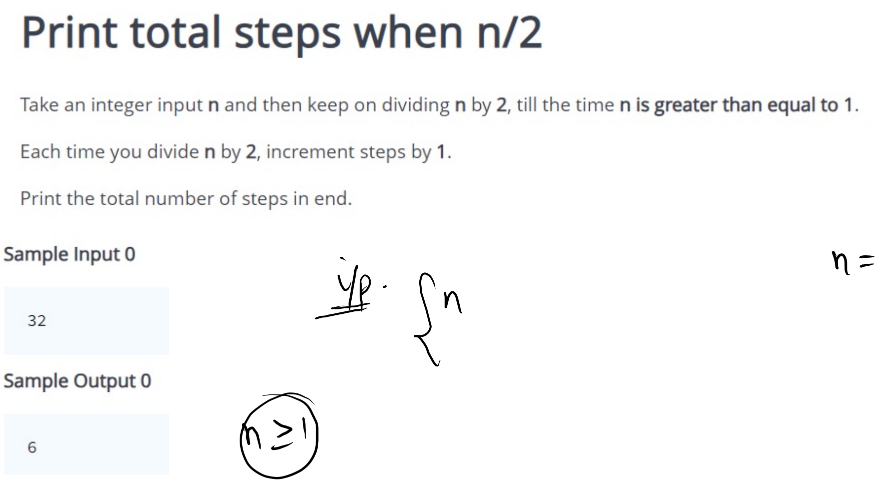
1234 > 0

123 > 0

12 > 0

1 > 0

$\boxed{0 > 0}$



Print total steps when n/2

Take an integer input **n** and then keep on dividing **n** by **2**, till the time **n is greater than equal to 1**.

Each time you divide **n** by **2**, increment steps by **1**.

Print the total number of steps in end.

Sample Input 0

```
32
```

Sample Output 0

```
6
```

step = ~~0~~ ~~1~~ ~~2~~ ~~3~~ ~~4~~ ~~5~~ $\boxed{6}$ ✓

i/p. {n

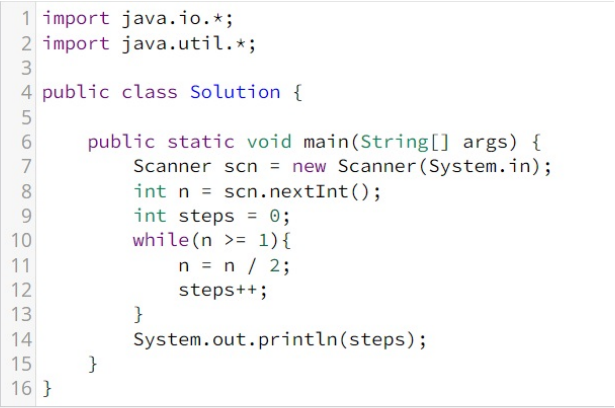
$\boxed{n \geq 1}$

$\begin{array}{r} 0 \\ 2\overline{)\,1\,(} \end{array}$

$2 \geq 1$

$\boxed{1 \geq 1}$ ✓

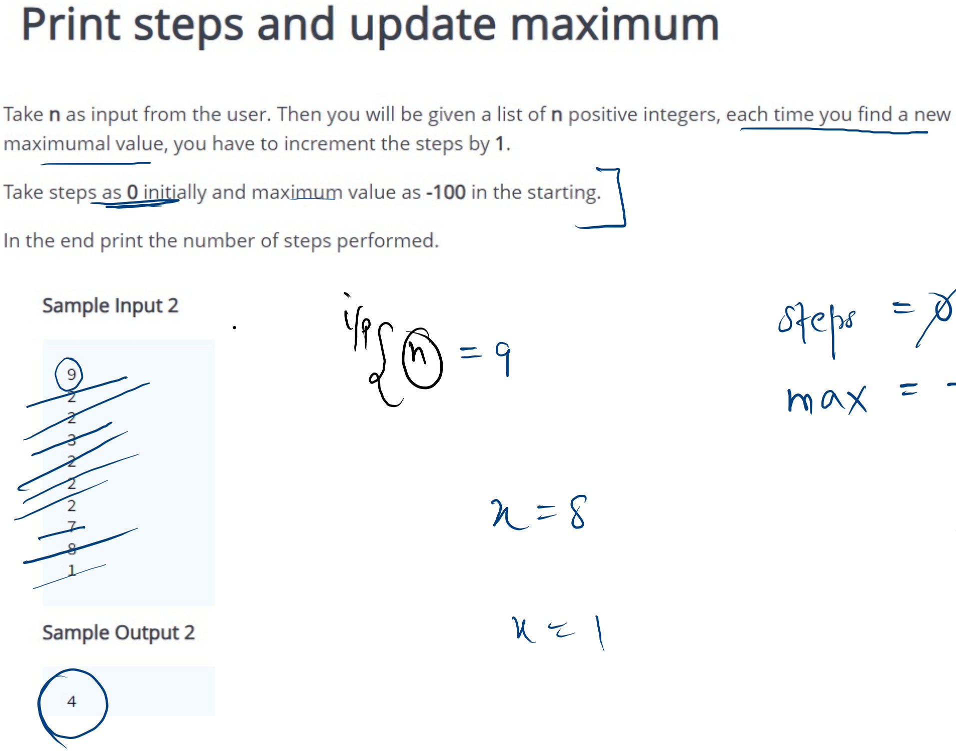
$$\begin{tikzcd}
n = 32 \arrow[d] \\
16 \arrow[d] \\
8 \arrow[d] \\
4 \arrow[d] \\
2 \arrow[d] \\
1 \arrow[d] \\
0
\end{tikzcd}$$



```java
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();
        int steps = 0;
        while(n >= 1){
            n = n / 2;
            steps++;
        }
        System.out.println(steps);
    }
}
```

n= 32.

steps = 0



Print steps and update maximum

Take **n** as input from the user. Then you will be given a list of **n** positive integers, each time you find a new maximumal value, you have to increment the steps by **1**.

Take steps as **0** initially and maximum value as **-100** in the starting.

In the end print the number of steps performed.

Sample Input 2

```
9
2
2
3
2
2
2
7
8
1
```

Sample Output 2

```
4
```

i/p { n = 9

steps = ~~0~~ ~~1~~ ~~2~~ ~~3~~ 4

max = ~~-100~~ ~~2~~ ~~3~~ ~~7~~ 8

x = 8

x = 1

x > max

8 > 7

1 > max

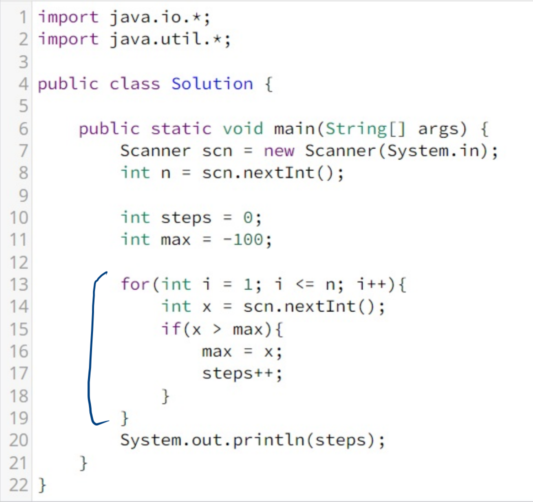
4

~~2~~

~~1~~

~~3~~

2



```
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();

        int steps = 0;
        int max = -100;

        for(int i = 1; i <= n; i++){
            int x = scn.nextInt();
            if(x > max){
                max = x;
                steps++;
            }
        }
        System.out.println(steps);
    }
}
```

n = 4

steps = ~~0~~ ~~1~~ 2

max = ~~-100~~ ~~2~~ 3

i = ~~1~~

1 ≤ 4 ✓

x = 2

~~2~~

2 ≤ 4 ✓

x = 1

1 > 2

3

3 ≤ 4

x = 3

3 > 2

4

4 ≤ 4

x = 2

x > max

2 > 3

5

5 ≤ 4 ✗

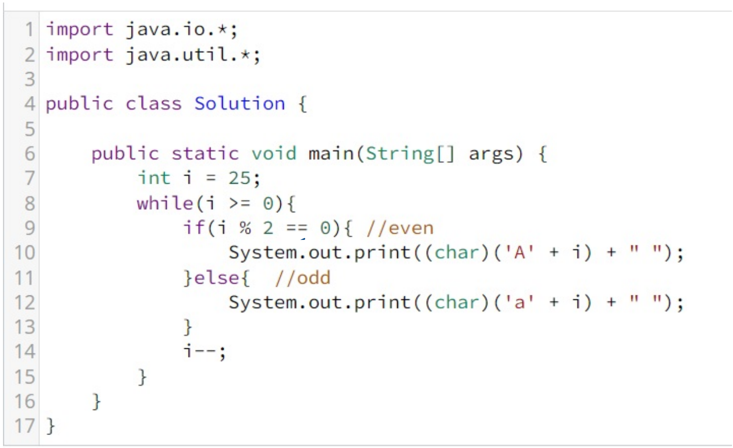
Print z, Y, x, W, v,...

Print `z, Y, x, W, v`... uptil 26 characters using a **while loop**.

o/p { z Y x W v U . . . .

A	b	C	d	E	f	G	h	I	j	K	l	M	n
0	1	2	3	4	5	6	7	8	9	10	11	12	13

O	p	Q	r	S	t	U	v	W	x	Y	Z
14	15	16	17	18	19	20	21	22	23	24	25



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

public class Solution {

    public static void main(String[] args) {
        int i = 25;
        while(i >= 0){
            if(i % 2 == 0){ //even
                System.out.print((char)('A' + i) + " ");
            }else{   //odd
                System.out.print((char)('a' + i) + " ");
            }
            i--;
        }
    }
}
```

i = ~~25~~

~~24~~

23

i ≥ 0

25 ≥ 0 ✓

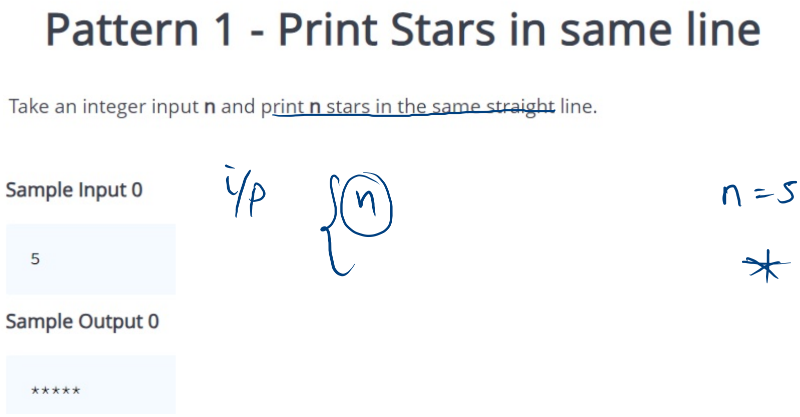
24 ≥ 0

23 ≥ 0 ✓

'a' + 25

97
23
120

z Y x



Pattern 1 - Print Stars in same line

Take an integer input **n** and print **n** stars in the same straight line.

Sample Input 0

```
5
```

Sample Output 0

```
*****
```

i/p { n

n = 5

* * * * *

n = 7

* * * * * * *

loop → n times

[*

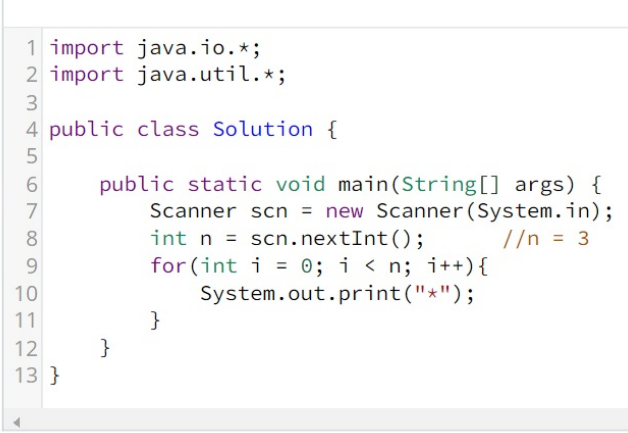
n =3

i=~~0~~ 0<3 ✓

~~1~~ 1<3 ✓

~~2~~ 2<3 ✓

3 3<3 ✗



```
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();      //n = 3
        for(int i = 0; i < n; i++){
            System.out.print("*");
        }
    }
}
```

***

Pattern 2 - Print n x 12 star rectangle

Take **n** as an integer input and then print a **star rectangle** such that each line has **n** stars.

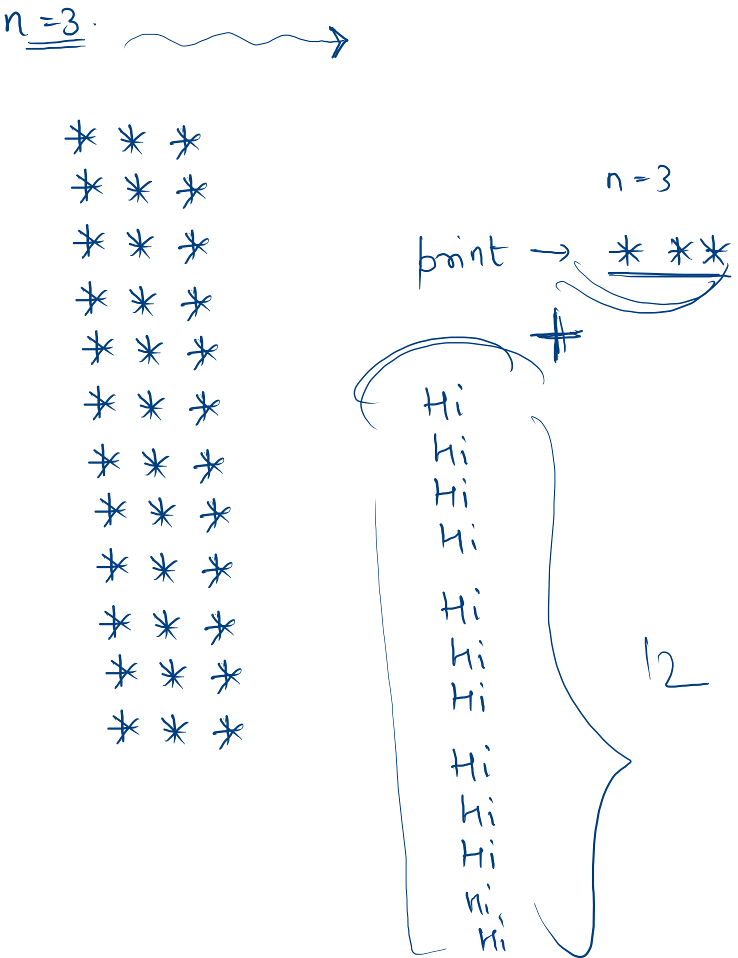
Also, there are 12 such lines.

Sample Input 0

```
6
```

Sample Output 0

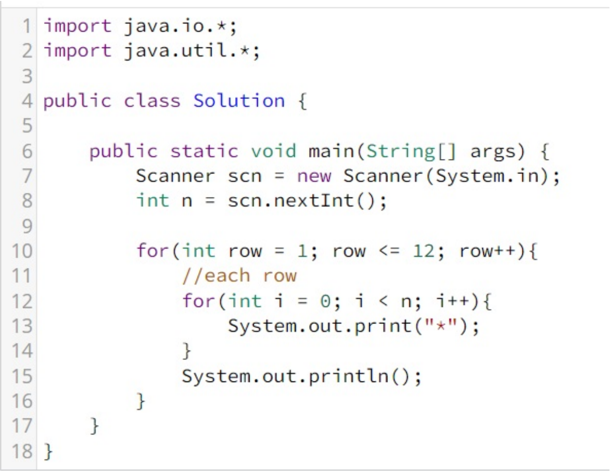
```
******
******
******
******
******
******
******
******
******
******
******
******
```



i/p

n=3.

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



```java
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 <= 12; row++){
            //each row
            for(int i = 0; i < n; i++){
                System.out.print("*");
            }
            System.out.println();
        }
    }
}
```

row = ~~1~~ ~~2~~ 3

1≤2 ✓

2≤2 ✓

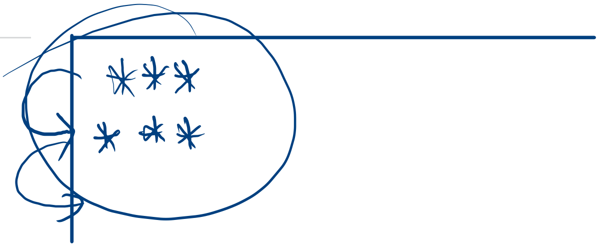
3≤2 ✗

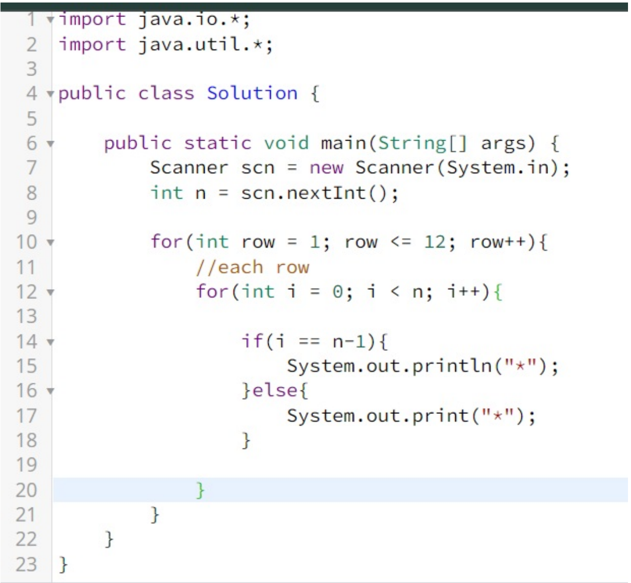
i = ~~0~~ 0<3

~~1~~ 1<3

~~2~~ 2<3

3 3<3 ✗





```java
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 <= 12; row++){
            //each row
            for(int i = 0; i < n; i++){

                if(i == n-1){
                    System.out.println("*");
                }else{
                    System.out.print("*");
                }

            }
        }
    }
}
```