

Revision.

while (?)

- true \rightarrow iterate
- false \rightarrow stop.

§

•

nested loop.

3

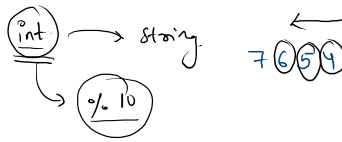
Print all digits from end

Sample Input 0

7654

Sample Output 0

4
5
6
7



4
5
6
7

?

$n = 7654$. 765
 $d = n \% 10 \rightarrow 4$
 $String(d)$
 $n = n / 10;$

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

$n = 1234$ 123 12 1
 $1234 > 0$
 $d = 4$
 $123 > 0$
 $d = 3$

$12 > 0$ $1 > 0$
 $d = 2$ $d = 1$

1 2 3 4
10) 1234
10
23
20
34
30
4

$n = 1234$ 123
 $n \% 10 = 4$
 $n /= 10$
 $0 > 0$

GKSTR46 Number of Digits

eg.

$$n = 523$$

$$\text{ans} = \textcircled{3}$$

$$n = 1234$$

$$\text{ans} = \textcircled{4}$$

$$\text{Count} = \cancel{0} + \cancel{1} + \cancel{2} \textcircled{3}$$

$$\underline{n = \cancel{523} \quad \cancel{52} \quad \cancel{5} \quad 0}$$

$$n \leq 575760 \quad ?$$

$$\text{ans} = \textcircled{6}$$

while ($n > 0$)

{

}

$$n = \cancel{1234} \quad \cancel{123} \quad \cancel{12} \quad + \textcircled{0}$$

$$\text{count} = \cancel{0} + \cancel{2} + \cancel{3} \textcircled{4}$$

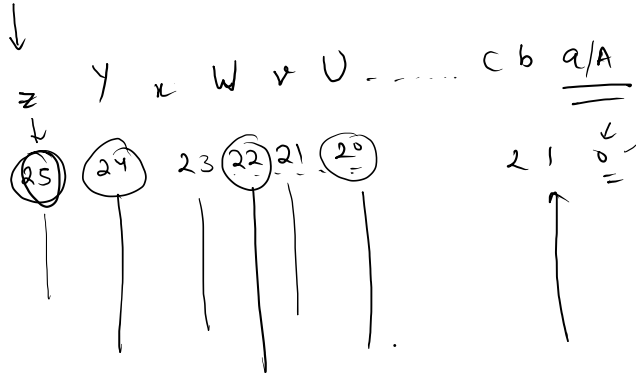
Print z, Y, x, W, v,...

Problem

Submissions

Leaderboard

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



odd → lower case
even → upper case.

```
while(pos >= 0){
    if(pos % 2 == 0){
        System.out.print((char)('A' + pos) + " ");
    }
    else{
        System.out.print((char)('a' + pos) + " ");
    }
    pos--;
}
```

pos = 25 24
23 22 21 20
z Y ...

'a' + 25

97 + 25

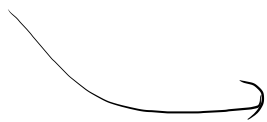
= 122

'A' + 24

65 + 24

= 89

Patterns.



generic

way to code.

more
lines.

A large hand-drawn curly brace pointing upwards, indicating that the code below it is more verbose.

nested
loops

loop
inside
another
loop.

A hand-drawn curved arrow pointing from the 'nested loops' circle towards the text 'loop inside another loop.'
A large hand-drawn curly brace pointing upwards, indicating that the code below it is more verbose.

Pattern 1 - Print Stars in same line

5 → * * * *

6 \rightarrow * * * * *

$n \rightarrow$ 
 n stars.



↓
n times

Pattern 2 - Print n x 12 star rectangle

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

n = 5 * * * * * → 0th
* * * * * → 1st
* * * * * → 2nd

n = 5
row = 0

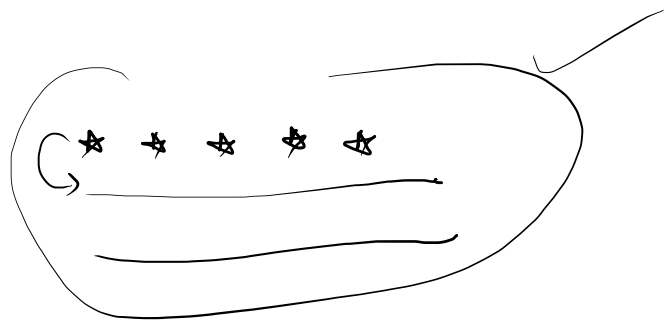
0 < 3 ✓

row = 1
1 < 3.

~~0~~ 0 < 5
~~1~~ 1 < 5
~~2~~ 2 < 5
~~3~~ 3 < 5
~~4~~ 4 < 5
5 < 5

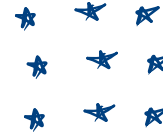
row = 2
2 < 3

row = 3
3 < 3



Pattern 3 - nxn star rectangle *square.*

$n=3$



Problem

Submissions

Leaderboard

Discussions

Take n as an integer input. Then print $n \times n$ star **rectangle** as mentioned below.

In each line, n stars should be printed.

And there should be n such lines.

Input Format

For each test case, n will be given as an integer input.

$n=4$.



already.

n n
 $n \times n$

n stars



GKSTR19 Pattern_4

Problem

Submissions

Leaderboard

Discuss

Take Integer N as input and print the following pattern.



1. row? \rightarrow n rows.

2. how many stars?
 \hookrightarrow 0th.

Star = 1

3. observe similarity in each row.

Star++

```

int n = scn.nextInt(); // 4

int star = 1;

for(int row = 0; row < n; row++){ // this

    for(int cst = 0; cst < star; cst++){

        System.out.print("* ");

    }

    System.out.println();
    star++;
}

```

$$n=4.$$

$$\text{star} = \cancel{1} \cancel{2} \cancel{3} \cancel{4} 5$$

7 rows

```

  *
 * 
*  *
*  *  *
 *  *  *  *

```

row=2
2<4

```

  *
 * 
*  *
*  *  *

```

row=4
4<4

cst=0 1 2 3
0<3
1<3
2<3
3<3 X

$$\text{row}=0$$

$$0 < 4$$

$$\text{cst} = \cancel{0} 1$$

$$0 < 1$$

$$(1 < 1) \text{ X}$$

$$\text{row}=3$$

$$3 < 4$$

$$\text{cst} = \cancel{0} \cancel{1} \cancel{2} \cancel{3} 4$$

$$0 < 4$$

$$1 < 4$$

$$2 < 4$$

$$3 < 4$$

$$(4 < 4) \text{ X}$$

$$\text{row}=1$$

$$1 < 4$$

$$\text{cst} = \cancel{0} 1 2$$

$$0 < 2$$

$$1 < 2$$

$$(2 < 2) \text{ X}$$

GKSTR20 Pattern_5

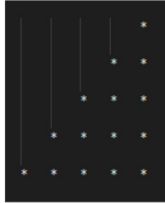
Problem

Submissions

Leaderboard

$n=5$

Take Integer N as input and print the following pattern.



each.

space - - star

$n=5$

rows = n ?

star = 1
space = $n-1$

similarity.

star ++

space --



```

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 star = 1;
        int space = n-1;

        for(int row = 0; row < n; row++){
            //space
            for(int csp = 0; csp < space; csp++){
                System.out.print(" ");
            }
            //star
            for(int cst = 0; cst < star; cst++){
                System.out.print("*");
            }
            star++;
            space--;
            System.out.println();
        }
    }
}

```

n=4.

```

- - - *
- - * *
- * * *
* * * *

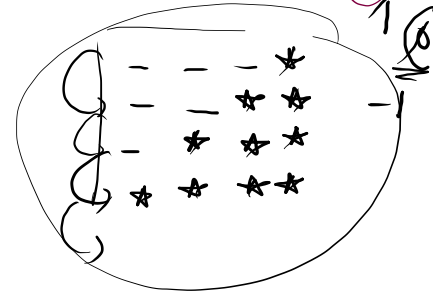
```

row = 3
3 < 4. ✓

csp = 0
0 < 0^x

cst = 0

5 star = 1 2 3 4
space = 3



row = 4
4 < 4