

Java Question for absolute beginner

(Part 3 - Pattern Problems)

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Questions are gathered from various site

Pattern 1 - Stars in same line

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

Input Format

You will be given an integer input n.

Output Format

Print as given in the problem statement.

For better understanding, check the test case below.

Sample Input 0

5

Sample Output 0

Sample Input 1

7

Sample Output 1

Sample Input 2

9

Pattern 2 - n x n 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.

Input Format

For each test case, take n as an integer input.

Output Format

Print according to the problem statement.

For reference, check out the sample test case below.

Sample Input

3

Sample Output

Pattern 3 - n x m star rectangle

Take n as an integer input. Then print the n x m 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.

Output Format

Print according to the problem statement.

For reference, look at the test cases below.

Sample Input 0

4

4

Sample Output 0

Sample Input 1

6

5

Sample Output 1

Pattern 4 - Right-angled Triangle Pattern

Take Integer **N** as input and print the following pattern.

Input Format

Single Line Input Integer Value

Output Format

N Line of Pattern as shown in the problem statement.

Sample Input

5

Sample Output

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

Pattern 5 - Inverted Right-angled Triangle Pattern

Take an Integer input **n** and Print the pattern given below.

Input Format

A single line **n** takes input from the user.

Output Format

Print the pattern .

Sample Input	Sample Output
5	<pre>* * * * * * * * * * * * * * *</pre>

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Pattern 6 - Mirror Right-angled Triangle of *

Take Integer **N** as input and print the following pattern.

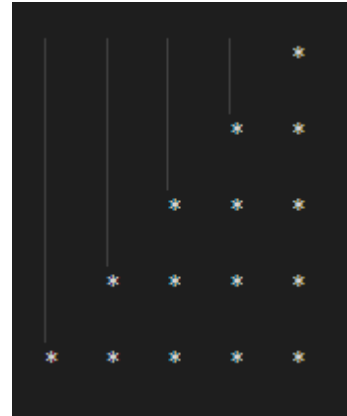
Input Format

Single Line Input Integer Value

Output Format

N Line of Pattern as shown in the problem statement.

Note: No space in between stars.



Sample Input 0

5

Sample Output 0

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

Pattern 7 - Right-angled triangle of number from 1 to n

Take Integer **N** as input and print the following pattern.

Input Format

Single Line Input Integer Value

Output Format

N Line of Pattern as shown in the problem statement.

Sample Input	Sample Output
5	1 1 2 1 2 3 1 2 3 4 1 2 3 4 5

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Pattern 8 - Mirror Right-angled Triangle of whole numbers

Take an integer input **n** and Print the pattern.

Input Format

A single line **n** takes input from the user.

Output Format

Print the pattern.

Sample Input	Sample Output
5	<pre> 1 1 2 1 2 3 1 2 3 4 1 2 3 4 5 </pre>

Pattern 9 - Inverted Right-angled Triangle of whole numbers

Take an integer input **n** and Print the pattern.

Input Format

A single line **n** takes input from the user.

Output Format

Print the pattern.

Sample Input

7

Sample Output

```

1 2 3 4 5 6 7
1 2 3 4 5 6
1 2 3 4 5
1 2 3 4
1 2 3
1 2
1

```

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Pattern 10 - Right triangle of 5 multiples

Take an integer n as an integer input, and then

print the first multiple of 5 in the first line,

print the first two multiples of 5 in the second line.

print first n multiples of 5 in the nth line.

Note: In each line the multiples of 5 should be tab separated.

Input Format

For each test case, take n as an integer input.

Output Format

Print as given in the problem statement.

Sample Input

6

Sample Output

```
5
5 10
5 10 15
5 10 15 20
5 10 15 20 25
5 10 15 20 25 30
```


Pattern 11 - Hollow m * n star rectangle.

Take m and n as an integer input, then print a hollow m by n star rectangle.

Then print a hollow star rectangle which has m stars in the first line and m stars in the nth line.

Their rectangle should have n lines and every line in between should have only the first star and then the mth star.

Input Format

For each test case, m will be given in the first line. And n will be given in the second line.

Output Format

Print as given in the test case below.

Sample Input 0

5
4

Sample Output 0

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

Sample Input 1

7
8

Sample Output 1

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

Input : 4
5

OutPut:

```

X X X X
X       X
X       X
X       X
X X X X
```

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Pattern 12 - 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 be n-1 lines and then in the last line there will be n stars.

Input Format

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

Output Format

Take a look at the test case below for better understanding.

Sample Input

5

Sample Output

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

Pattern 13 - Square Ladder with top and bottom

Take n as an integer input, then print n tab separated stars in the first line, then in the second line print a star, then n-2 tabs, then print a star. then print n tab separated stars in the third line. then in the fourth line print a star, then n-2 tabs, then print a star .

Continue the pattern like this.

Example: n=5

Pattern will be:

Input Format

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

Output Format

Print as given in the problem statement.



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Pattern 14 - Pyramid

Take Integer **N** as input and print the following pattern.

Input Format

Single Line Input Integer Value

Output Format

N Line of Pattern as shown in the problem statement.

Sample Input

5

Sample Output

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



Pattern 15 - Diamond

Take Integer **N** as input and print the following pattern.

Input Format

Single Line Input Integer Value

Output Format

$((2*N)-1)$ Line of Pattern as shown in problem statement.

Note: No space in between stars.

Sample Input

5

Sample Output

```

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



Pattern 16 - Inverted Pyramid

Print the below pattern.

Take m as an integer input, where m tab separated stars are printed in the first line. Then you have to print the pattern below.

Eg. for m=7, the output is written under.

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

Input Format

m will be given as an integer output.

Output Format

Print the pattern as given under

Sample Input 0

5

Sample Output 0

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

Sample Input 1

9

Sample Output 1

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

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Pattern 17 - Big Ladder

Print the below pattern below

Given m and n integer input, where m tab separated stars are printed in the first line, and in total there are n lines.

Eg. for m=7,n=13 the output is written under.

Recognise the pattern and print the final output.

Input Format

m will be given in the first line,

n will be given in the second line.

Output Format

Print the pattern accordingly.

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

Sample Input	sample Output	Sample Input	sample Output
3 10	Sample Output 0 *	5 13	* *

Pattern 18 - V Pattern

Print the below pattern using nested for and while loop

Note that : between two characters there is a tab.

Eg. for m=7, the output is written under. Recognise the pattern and print the final output.

Input Format

m will be given as an integer input

Output Format

Print the pattern.

Sample Input 0

7

Sample Output 0

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

Sample Input 1

5

Sample Output 1

```
*
  *
    *
      *
```

Sample Input 2

9

Sample Output 2

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

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Pattern 19 - Dumroo Pattern

Print the below pattern Given m as integer input, where m tab separated stars are printed in the first line, Eg. for m=7, the output is written under. Recognise the pattern and print the final output.

Input Format

m will be given as an integer input in the first line.

Output Format

Print the pattern accordingly.

Sample Input

9

Sample Output

```

*      *      *      *      *      *      *      *      *
      *      *      *      *      *      *      *
        *      *      *      *      *
          *      *      *
            *      *
              *      *
                *      *
                  *      *
                    *      *
                      *      *
                        *      *
                          *      *
                            *      *

```

```

*      *      *      *      *      *      *
      *      *      *      *      *
        *      *      *
          *      *
            *      *      *
              *      *      *
                *      *      *
                  *      *      *
                    *      *      *
                      *      *      *

```


Pattern 20 - Number Pattern 2

Take an Integer input **n** and **k** and Print the Pattern below.

K here Denotes the multiples of **k**.

Input Format

First line **n** take input from user.

Second line **k** takes input from the user.

Output Format

Print the series

Sample Input

6

7

Sample Output

```
      7
     7 14
    7 14 21
   7 14 21 28
  7 14 21 28 35
 7 14 21 28 35 42
```

Explanation

n=6 and k=7

k here denotes the multiples of k.

Pattern 21 - **12

Take an Integer input **n** and write a program as shown for n = 5 below

```
****1
***12
**123
*1234
12345
```

Input Format

Take n as input from the user.

Output Format

Print the series

Sample Input

6

Sample Output

```
*****1
****12
***123
**1234
*12345
123456
```

Pattern 22 - **21

Take an Integer input **n** and write a program as shown for n = 5 below

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

Input Format

Take n as input from the user.

Output Format

Print the series

Sample Input

6

Sample Output

```
* * * * * 1
* * * * 2 1
* * * 3 2 1
* * 4 3 2 1
* 5 4 3 2 1
6 5 4 3 2 1
```