

Star Pattern

Problem Description: You are given with an input number N, then you have to print the given star pattern corresponding to that number N.

For example if N=4

Pattern output :

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

How to approach?

1. Take N as input from the user.
2. Figure out the number of rows, (which is N here) and run a loop for that.
3. Now, figure out the number of columns in ith row (i.e. $2*(i)-1$) and run a loop for that within this. Here, first you need to run a loop to print the spaces too.
4. Now, figure out “What to print?” in a particular row, column number. Here we have to print “*”.

Pseudo code for the given problem:

input=N

i=1

While i is less than equal to N:

spaces=1

While spaces is less than (n-i):

print(' ')

Increment spaces by 1

j=1

*While j is less than equal to 2*i-1:*

print(“”)*

Increment j by 1

Increment i by 1

Add a new line here

❑ Let us dry run the Code for N=4

- $i=1(<=4)$

- $4-1=3$ spaces are getting printed first.
- $j=1(\leq 2*1-1)$, so print "*"
- $j=2(>2*1-1)$, move out of the inner loop with a new line
- $i=2(\leq 4)$
 - $4-2=2$ spaces are getting printed first.
 - $j=1(\leq 2*2-1)$, so print "**"
 - $j=2(\leq 2*2-1)$, so print "**"
 - $j=3(\leq 2*2-1)$, so print "**"
 - $j=4(>2*2-1)$, move out of the inner loop with a new line
- $i=3(\leq 4)$
 - $4-3=1$ space is getting printed first.
 - $j=1(\leq 2*3-1)$, so print "***"
 - $j=2(\leq 2*3-1)$, so print "***"
 - $j=3(\leq 2*3-1)$, so print "***"
 - $j=4(\leq 2*3-1)$, so print "***"
 - $j=5(\leq 2*3-1)$, so print "***"
 - $j=6(>2*3-1)$, move out of the inner loop with a new line
- $i=4(\leq 4)$
 - $4-4=0$ no space is getting printed.
 - $j=1(\leq 2*4-1)$, so print "****"
 - $j=2(\leq 2*4-1)$, so print "****"
 - $j=3(\leq 2*4-1)$, so print "****"
 - $j=4(\leq 2*4-1)$, so print "****"
 - $j=5(\leq 2*4-1)$, so print "****"
 - $j=6(\leq 2*4-1)$, so print "****"
 - $j=7(\leq 2*4-1)$, so print "****"
 - $j=8(>2*4-1)$, move out of the inner loop with a new line
- $i=5(>4)$, move out of the loop

So , final output:

```

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

```