

Inverted number pattern

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

For example if N=4

Pattern output : 4444

333

22

1

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 how many columns are to be printed in ith row and run a loop for that within this.
4. Now, figure out “What to print?” in a particular row, column number. It can depend on the column number, row number or N. Here, it is $N-i+1$.

Pseudo code for the given problem:

input=N

i=1

While i is less than or equal to N:

j=1

While j is less than or equal to N- i+1:

print(N-i+1)

Increment j by 1

Increment i by 1

Add a new line here

❑ Let us dry run the Code for N=4

- $i=1(<=4)$
 - $j=1 (<=4-1+1)$, so print $4-1+1=4$.
 - $j=2 (<=4-1+1)$, so print $4-1+1=4$.
 - $j=3 (<=4-1+1)$, so print $4-1+1=4$.
 - $j=4 (<=4-1+1)$, so print $4-1+1=4$.

→ $j=5(>4)$, move out of the inner loop with a new line

- $i=2(\leq 4)$
 - $j=1 (\leq 4-2+1)$, so print $4-2+1=3$.
 - $j=2 (\leq 4-2+1)$, so print $4-2+1=3$
 - $j=3 (\leq 4-2+1)$, so print $4-2+1=3$
 - $j=4(>3)$, move out of the inner loop with a new line.
- $i=3(\leq 4)$
 - $j=1 (\leq 4-3+1)$, so print
 - $j=2 (\leq 4-3+1)$, so print $4-3+1=2$.
 - $j=3 (>2)$, move out of the inner loop with a new line.
- $i=4(\leq 4)$
 - $j=1 (\leq 4-4+1)$, so print $4-4+1=1$
 - $j=2 (>4-4+1)$, move out of the inner loop with a new line
- $i=5(>4)$, move out of the loop

So , final output:

4444

333

22

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