

Mirror 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 : 1
 12
 123
 1234

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 there in ith row 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). It can depend on the column number, row number or N.

Pseudo code for the given problem:

input=N

i=1

While i is less than or equal to N:

spaces=1

While spaces is less than (n-i):

print(' ')

Increment spaces by 1

j=1

While j is less than or equal to i:

print(j)

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.
- $j=1(<=1)$, so $\text{print}=1+1-1=1$
- $j=2(>1)$, move out of the inner loop with a new line
- $i=2(<=4)$
 - $4-2=2$ spaces are getting printed first.
 - $j=1(<=2)$, so print 1
 - $j=2(<=2)$, so print 2
 - $j=3(>2)$, move out of the inner loop with a new line
- $i=3(<=4)$
 - $4-3=1$ space is getting printed first.
 - $j=1(<=3)$, so print 1
 - $j=2(<=3)$, so print 2
 - $j=3(<=3)$, so print 3
 - $j=4(>3)$, move out of the inner loop with a new line
- $i=4(<=4)$
 - $4-4=0$ no space is getting printed.
 - $j=1(<=4)$, so print 1
 - $j=2(<=4)$, so print 2
 - $j=3(<=4)$, so print 3
 - $j=4(<=4)$, so print 4
 - $j=5(>4)$, move out of the inner loop with a new line
- $i=5(>4)$, move out of the loop

So , final output:

```
1
12
123
1234
```