

## **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.

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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

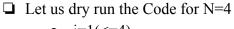
While j is less than or equal to i:

print(j)

Increment j by 1

Increment i by 1

Add a new line here
```



• i=1(<=4)



- → 4-1=3 spaces are getting printed first.
- $\rightarrow$  j=1(<=1), so print=1+1-1=1
- $\rightarrow$  j=2 (>1), move out of the inner loop with a new line
- i=2(<=4)
  - → 4-2=2 spaces are getting printed first.
  - $\rightarrow$  j=1 (<=2), so print 1
  - $\rightarrow$  j=2 (<=2), so print 2
  - $\rightarrow$  j=3(>2), move out of the inner loop with a new line
- i=3(<=4)
  - → 4-3=1 space is getting printed first.
  - $\rightarrow$  j=1(<=3), so print 1
  - → j=2(<=3), so print 2
  - → j=3(<=3), so print 3
  - $\rightarrow$  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
  - $\rightarrow$  j=2(<=4), so print 2
  - → j=3(<=4), so print 3
  - $\rightarrow$  j=4(<=4), so print 4
  - $\rightarrow$  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

