**Programming - Python for Beginners - Pattern Problems - Day 3**

**Source: HackerRank**

Print a pattern of numbers from to  as shown below. Each of the numbers is separated by a single space.

4 4 4 4 4 4 4

4 3 3 3 3 3 4

4 3 2 2 2 3 4

4 3 2 1 2 3 4

4 3 2 2 2 3 4

4 3 3 3 3 3 4

4 4 4 4 4 4 4

**Input Format**

The input will contain a single integer.

**Constraints**

**Sample Input 0**

2

**Sample Output 0**

2 2 2

2 1 2

2 2 2

**Sample Input 1**

5

**Sample Output 1**

5 5 5 5 5 5 5 5 5

5 4 4 4 4 4 4 4 5

5 4 3 3 3 3 3 4 5

5 4 3 2 2 2 3 4 5

5 4 3 2 1 2 3 4 5

5 4 3 2 2 2 3 4 5

5 4 3 3 3 3 3 4 5

5 4 4 4 4 4 4 4 5

5 5 5 5 5 5 5 5 5

**Sample Input 2**

7

**Sample Output 2**

7 7 7 7 7 7 7 7 7 7 7 7 7

7 6 6 6 6 6 6 6 6 6 6 6 7

7 6 5 5 5 5 5 5 5 5 5 6 7

7 6 5 4 4 4 4 4 4 4 5 6 7

7 6 5 4 3 3 3 3 3 4 5 6 7

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

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

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

7 6 5 4 3 3 3 3 3 4 5 6 7

7 6 5 4 4 4 4 4 4 4 5 6 7

7 6 5 5 5 5 5 5 5 5 5 6 7

7 6 6 6 6 6 6 6 6 6 6 6 7

7 7 7 7 7 7 7 7 7 7 7 7 7

#Function to print numbers in matrix pattern

def MatrixPattern(n):

NoofRows = n\*2-1

for row in range(0,NoofRows):

k=n

#Till the row after the middle row

if(row<=n):

for col in range(0,NoofRows):

print(k, end=" ")

if(row>col):

k=k-1

if(row+col>=NoofRows-1):

k=k+1

else:

#After the middle row

for col in range(0,NoofRows):

print(k, end=" ")

if(col>=row):

k=k+1

if(row+col<NoofRows-1):

k=k-1

print()

MatrixPattern(5)