**Patterns**

n=int(input("Enter a number: "))

for i in range(1,n+1):

    for j in range(1,i+1):

        print("\*",end=" ")

    print("\r")

''''

output:

Enter a number: 5

\*

\* \*

\* \* \*

\* \* \* \*

\* \* \* \* \*

'''

k=1

for i in range(1,n+1):

    for j in range(1,i+1):

        print(k,end=" ")

        k+=1

    print("\r")

'''

output:

1

2 3

4 5 6

7 8 9 10

11 12 13 14 15

'''

#for printing characters

num=65

for i in range(1,n+1):

    for j in range(1,i+1):

        print(chr(num),end=" ")

        num+=1

    print("\r")

'''

ouput:

A

B C

D E F

G H I J

K L M N O

'''

#n=int(input("Enter a number: "))

n=5

k=2\*(n-1)

for i in range(1,n+1):

    #inner loop for no.of spaces

    for j in range(1,k+1):

        print(end=' ')

    k-=2

    #inner loop for no.of stars

    for j in range(1,i+1):

        print("\* ",end='')

    print("\r")

'''

#Rotational pyramid

        \*

      \* \*

    \* \* \*

  \* \* \* \*

\* \* \* \* \*

'''

z=2\*(n-1)

for i in range(1,n+1):

    #inner loop for handling spaces

    for j in range(1,z+1):

        print(end=" ")

    z-=2

    #inner loop for printing numbers

    for j in range(1,i+1):

        print(j,end=" ")

    print('\r')

'''

        1

      1 2

    1 2 3

  1 2 3 4

1 2 3 4 5

'''

a=2\*(n-1)

b=65

for i in range(1,n+1):

    #loop for spaces

    for j in range(1,a+1):

        print(end=" ")

    a-=2

    #innerloop for printing content

    for j in range(1,i+1):

        print(chr(b),end=' ')

        b+=1

    print('\r')

'''

        A

      B C

    D E F

  G H I J

K L M N O

'''

c=2\*(n-1)

d=1

for i in range(1,n+1):

    for j in range(1,c+1):

        print(end=' ')

    c-=2

    for j in range(1,i+1):

        print(d,end=' ')

        d+=1

    print('\r')

'''     1

      2 3

    4 5 6

  7 8 9 10

11 12 13 14 15

'''

#traingle pattern in python

def triangle(n):

    c=n-1

    for i in range(1,n+1):

        for j in range(1,c+1):

            print(end=' ')

        c=c-1

        for k in range(1,i+1):

            print("\*",end=' ')

        print('\r')

triangle(5)

'''

Output:

    \*

   \* \*

  \* \* \*

 \* \* \* \*

\* \* \* \* \*

'''

#Reverse simple pyramid

def reverse\_simple\_pyraid(n):

    c=2\*(n-1)

    for i in range(n+1,0,-1):

        for j in range(1,i+1):

            print("\*",end=' ')

        for k in range(1,c+1):

            print(end=' ')

        c=c-1

        print('\r')

reverse\_simple\_pyraid(5)

'''

Output:

\* \* \* \* \* \*

\* \* \* \* \*

\* \* \* \*

\* \* \*

\* \*

\*

'''

def reverse\_simple\_pyraid\_alpha(n):

    c=2\*(n-1)

    d=65

    for i in range(n+1,0,-1):

        for j in range(1,i+1):

            print(chr(d),end=' ')

            d+=1

            if(chr(d)=='Z'):

                break

        for k in range(1,c+1):

            print(end=' ')

        c=c-1

        print('\r')

reverse\_simple\_pyraid\_alpha(6)

'''Output:

A B C D E F G

H I J K L M

N O P Q R

S T U V

W X Y

Z [

\ '''