

# #Task1

## SIRSS2160

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In [1]:

```
for i in range(5):
    for j in range(i,5):
        print("5",end=' ')
    print()
```

```
5 5 5 5 5
5 5 5 5
5 5 5
5 5
5
```

In [2]:

```
for i in range(5,0,-1):
    for j in range(0,i+1):
        print(j,end=' ')
    print()
```

```
0 1 2 3 4 5
0 1 2 3 4
0 1 2 3
0 1 2
0 1
0 1
```

In [3]:

```
rows = 5
i = 1
while i <= rows:
    j = 1
    while j <= i:
        print((i * 2-1), end=" ")
        j = j + 1
    i = i + 1
    print()
```

```
1
3 3
5 5 5
7 7 7 7
9 9 9 9 9
```

In [4]:

```

for row in range(1,6):
    for column in range(row, 0, -1):
        print(column, end=' ')
    print('')

```

```

1
2 1
3 2 1
4 3 2 1
5 4 3 2 1

```

In [5]:

```

start = 1
stop = 2
currentNumber = stop
for row in range(2, 6):
    for col in range(start, stop):
        currentNumber -= 1
        print(currentNumber, end=' ')
    print('')
    start = stop
    stop += row
    currentNumber = stop

```

```

1
3 2
6 5 4
10 9 8 7

```

In [6]:

```

def print_pascal_triangle(size):
    for i in range(0, size):
        for j in range(0, i + 1):
            print(decide_number(i, j), end=" ")
        print()
def decide_number(n, k):
    num = 1
    if k > n - k:
        k = n - k
    for i in range(0, k):
        num = num * (n - i)
        num = num // (i + 1)
    return num
rows = 7
print_pascal_triangle(rows)

```

```

1
1 1
1 2 1
1 3 3 1
1 4 6 4 1
1 5 10 10 5 1
1 6 15 20 15 6 1

```

In [7]:

```

for i in range(1, 5 + 1):
    for j in range(1, 5 + 1):
        if j <= i:
            print(i, end=' ')
        else:
            print(j, end=' ')
    print()

```

```

1 2 3 4 5
2 2 3 4 5
3 3 3 4 5
4 4 4 4 5
5 5 5 5 5

```

In [8]:

```

for i in range(1, 9):
    for j in range(1, i + 1):
        print(i * j, end=' ')
    print()

```

```

1
2 4
3 6 9
4 8 12 16
5 10 15 20 25
6 12 18 24 30 36
7 14 21 28 35 42 49
8 16 24 32 40 48 56 64

```

In [9]:

```

k = 2 * 5 - 2
for i in range(5, -1, -1):
    for j in range(k, 0, -1):
        print(end=" ")
    k = k + 1
    for j in range(0, i + 1):
        print("*", end=" ")
    print("")

```

```

* * * * *
 * * * *
  * * *
   * *
    *

```

In [10]:

```

n = int(input("Enter the number of rows: "))
m = (2 * n) - 2
for i in range(0, n):
    for j in range(0, m):
        print(end=" ")
    m = m - 1 # decrementing m after each loop
    for j in range(0, i + 1):
        # printing full Triangle pyramid using stars
        print("* ", end=" ")
    print("\n")

```

Enter the number of rows: 5

```

      *
     * *
    * * *
   * * * *
  * * * * *

```

In [11]:

```

for i in range(7):
    for j in range(i+1):
        print(end="* ")
    print()
print()
for i in range(7):
    for j in range(i, 7):
        print(end="* ")
    print()

```

```

*
* *
* * *
* * * *
* * * * *
* * * * *
* * * * *

* * * * * * *
* * * * * *
* * * * *
* * * *
* * *
* *
*

```

In [12]:

```
rows = 5
for i in range(0, rows):
    for j in range(0, i + 1):
        print("*", end=' ')
    print("\r")

for i in range(rows, 0, -1):
    for j in range(0, i - 1):
        print("*", end=' ')
    print("\r")
```

```
*
* *
* * *
* * * *
* * * * *
* * * *
* * *
* *
*
```

In [13]:

```
k = 2 * 5 - 2
for i in range(0, 5-1):
    for j in range(0, k):
        print(end=" ")
    k = k - 2
    for j in range(0, i + 1):
        print("* ", end=" ")
    print("\r")
k = -1
for i in range(5-1, -1, -1):
    for j in range(k, -1, -1):
        print(end=" ")
    k = k + 2
    for j in range(0, i + 1):
        print("* ", end=" ")
    print("\r")
```

```
*
* *
* * *
* * * *
* * * * *
* * * *
* * *
* *
*
```

In [14]:

```

rows = 5
i = 0
while i <= rows - 1:
    j = 0
    while j < i:
        # display space
        print(' ', end=' ')
        j += 1
    k = i
    while k <= rows - 1:
        print('*', end=' ')
        k += 1
    print()
    i += 1
i = rows - 1
while i >= 0:
    j = 0
    while j < i:
        print(' ', end=' ')
        j += 1
    k = i
    while k <= rows - 1:
        print('*', end=' ')
        k += 1
    print('')
    i -= 1

```

```

* * * * *
* * * *
* * *
* *
*
*
* *
* * *
* * * *
* * * * *

```

In [15]:

```
rows = 14
print("*" * rows, end="\n")
i = (rows // 2) - 1
j = 2
while i != 0:
    while j <= (rows - 2):
        print("*" * i, end="")
        print("_" * j, end="")
        print("*" * i, end="\n")
        i = i - 1
        j = j + 2
```

```
*****
*****
*****
****
***
**
*
*****
*****
*****
****
***
**
*
*****
*****
*****
****
***
**
*
```

In [ ]: