

In [1]:

```
for i in range(1, 6):  
    for j in range(1, i+1):  
        print(j, end = " ")  
    print()
```

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

In [2]:

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

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

In [3]:

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

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

In [4]:

```
for i in range(6,0,-1):  
    for j in range(1, i):  
        print(j, end = " ")  
    print()
```

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

In [5]:

```
for i in range(1, 6):
    for j in range(1, i+1):
        print(i, end = " ")
    print()
```

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

In [6]:

```
for i in range(5, 0, -1):
    for j in range(6, i, -1):
        print(i, end = " ")
    print()
```

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

In [7]:

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

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

In [8]:

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

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

In [9]:

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

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

In [10]:

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

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

In [11]:

```
for i in range(1, 6):
    for j in range(i, 0, -1):
        print(j, end = " ")
    print()
```

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

In [12]:

```
c = 1
st = 2
for i in range(3):
    for j in range(1, st):
        print(c, end=" ")
        c += 1
    print()
    st = st+1
```

```
1
2 3
4 5 6
```

In [13]:

```
c = 1
st = 2
for i in range(3):
    for j in range(1, st):
        print(c, end=" ")
        c += 1
    print()
    st = st+2
```

```
1
2 3 4
5 6 7 8 9
```

In [14]:

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

```
0
0 1
0 2 4
0 3 6 9
0 4 8 12 16
```

In [15]:

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

```
0
0 1
0 1 4
0 1 4 9
0 1 4 9 16
```

In [16]:

```

for i in range(1,6):
    for j in range(1,i+1):
        print(i*i, end = " ") #print(i**2, end = " ") can also be written
    print()

```

```

1
4 4
9 9 9
16 16 16 16
25 25 25 25 25

```

In [17]:

```

for i in range(1,6):
    for j in range(1,i+1):
        print(i*2-1, end = " ")
    print()

```

```

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

```

In [18]:

```

for i in range(1,6):
    for j in range(i):
        print(" * ", end = "")
    print( )

```

```

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

```

In [19]:

```

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

```

```

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

```

In [20]:

```

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

```

```

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

```

In [21]:

```

for i in range(6):
    for j in range(1,6):
        print(j, end = " ")
    print()

```

```

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

```

In [22]:

```

for i in range(1,6):
    for j in range(1,6):
        print(i, end = " ")
    print()

```

```

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

```

In [23]:

```

str = "A B C D E"
for i in range(1, 6):
    print(str[ : i*2])

```

```

A
A B
A B C
A B C D
A B C D E

```

In [24]:

```
str = "ABCDE"
for i in range(5):
    print(str[i]*(i+1))
```

A
BB
CCC
DDDD
EEEE

In [25]:

```
num = 5
for i in range (1, num + 1):
    sp = (num - i) * " "
    print(sp, end = " ")
    for k in range(i, 1, -1):
        print("*", end = " ")
    for j in range(1, i + 1):
        print("*", end = " ")
    print()
```

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

In [26]:

```
str = "python"
for i in range(len(str)+1):
    for j in range(i):
        print(str[j], end = " ")
    print()
```

p
p y
p y t
p y t h
p y t h o
p y t h o n

In [27]:

```
num = 5
for i in range (1, num + 1):
    sp = (num - i) * " "
    print(sp, end = " ")
    for k in range(i, 1, -1):
        print(i, end = " ")
    for j in range(1, i + 1):
        print(i, end = " ")
    print()
```

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

In []: