(2) Half Pyramid Pattern of Numbers

In [9]:
```
for i in range(0,5):
    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
```

(3) Inverted Pyramid of Descending Numbers

In [19]:
```
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
```

(1) Inverted Pyramid of Numbers

In [51]:
```
for i in range(1,6):
    for j in range(6,i,-1):
        print(i,end=" ")
    print(" ")
```

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

(4) Inverted Pyramid of the Same Digit

In [57]:
```
for i in range(1,6):
    for j in range(6,i,-1):
        print(5,end=" ")
    print(" ")
```

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

(5) Reverse Pyramid of Numbers

In [2]:
```
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
```

(6) Inverted Half Pyramid Number Pattern

In [36]:
```
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
```

(7) Pyramid of Natural Numbers Less Than 10

In [41]:
```
num = 1
stop = 2
for i in range(3):
    for j in range(1,stop):
        print(num,end=" ")
        num = num+1
    print(" ")
    stop=stop+2
```

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

(8) Python Program to calculate Sum of Series $1^2+2^2+3^2+....+n^2$

In [1]:
```
n = int(input("Enter Number : "))
sum1 = 0
for i in range(1,n+1):
    print("{}^2".format(i),"+",end = " ")
    sum1 = sum1 + i**2
print(": ",sum1)
```

```
Enter Number : 3
1^2 + 2^2 + 3^2 + :  14
```

(10) Python Program to display Natural Numbers within a range using while loop

In [2]:
```
n = int(input("Enter range "))
num = 1
while num <= n:
    print(num)
    num += 1
```

```
Enter range 3
1
2
3
```

(14) Python Program For Armstrong Number

In [3]:
```
n = input("Enter Number : ")
sum1 = 0
if n.isdigit() == True:
    for i in range(len(n)):
        sum1 = sum1 + int(n[i])**3
        print("{}^3 +".format(n[i]),end = " ")
    print(" :",sum1)
else:
    print("Enter Number")
```

```
Enter Number : 370
3^3 + 7^3 + 0^3 +  : 370
```

(13) Python Program to Count Number of Digits in a Number using While Loop

In [4]:
```
n = 1
while n != 0:
    num = input("Enter Number : ")
    if num.isdigit() == True:
        print(len(num))
        n -= 1
    else:
        print("Enter Number.")
```

```
Enter Number : 85245
5
```

(12) Python Fibonacci Series program using While Loop

In [5]:
```
n = int(input("Enter number :"))
i = 0
n1 = 0
n2 = 1
if n == 0:
    print("invalid input")
elif n == 1:
    print(n1)
else:
    while i < n :
        print(n1)
        n3 = n2 + n1
        n1 = n2
        n2 = n3
        i += 1
```

```
Enter number :5
0
1
1
2
3
```