

Write code in python to print following patterns:-

1. **Code:**

```
n=int(input("Enter the Number of Rows: "))
k=n
for i in range(n,0,-1):
    for j in range (0,i):
        print(end=' ')
    print()
    print()
```

Output:

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

2. **Code:**

```
n=int(input("Enter the Number of Rows: "))
k=0
for i in range (n,0,-1):
    k+=1
    for j in range(0,i+1):
        print(j,end=' ')
    print(" ")
```

Output:

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

3. **Code:**

```
n=int(input("Enter the Number of Rows: "))
k=-1
for i in range (n):
    k+=2
    for j in range(i+1):
        print(k,end=' ')
    print(" ")
```

Output:

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

4. Code:

```
n=int(input("Enter the Number of Rows: "))
for i in range(n+2):
    for j in range(i-1,0,-1):
        print(j,end="")
    print(' ')
```

Output:

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

5.Code:

```
n=int(input("Enter the numbers: " ))
start = 1
stop = 2
currentNumber = stop
for row in range(stop, n):
    for col in range(start, stop):
        currentNumber -= 1
        print(currentNumber , end=' ')
    print(" ")
    start = stop
    stop += row
    currentNumber = stop
```

Output:

```
1
3 2
6 5 4
10 9 8 7
```

6. Code:

```
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  
  
size=int(input("Enter the number of Rows: " ))  
for i in range(0, size):  
    for j in range(0, i + 1):  
        print(decide_number(i, j), end=" ")  
    print()
```

Output:

```
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
```

7. Code:

```
rows=int(input("Enter the number of Rows: " ))  
for i in range(1, rows + 1):  
    for j in range(1, rows + 1):  
        if j <= i:  
            print(i, end=' ')  
        else:  
            print(j, end=' ')  
    print()
```

Output:

```
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
```

8. Code:

```
rows = int(input("Enter the number of rows "))
for i in range(1, rows + 1):
    for j in range(1, i + 1):
        print(i * j, end=' ')
    print()
```

Output:

```
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
```

9. Code:

```
n=int(input("Enter the Number of Rows"))
for i in range(n,0,-1):
    for j in range (0,i):
        print("*",end="")
    print()
```

Output:

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

10.Code:

```
n= int(input("Enter the number of rows "))
for i in range (0,n):
    for j in range (0,i+1):
        print("*", end="")
    print()
```

Output:

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

11. Code:

```
n=int(input("Enter the Number of Rows"))
for i in range(0,n):
    for j in range (0,i+1):
        print("*",end="")
    print()
print(' ')
for i in range(n,0,-1):
    for j in range (0,i):
        print("*",end="")
    print()
```

Output:

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

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

12. Code:

```
n=int(input("Enter the Number of Rows"))
for i in range(0,n):
    for j in range (0,i):
        print("*",end="")
    print()
for i in range(n,0,-1):
    for j in range (0,i):
        print("*",end="")
    print()
```

Output:

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

13. Code:

```
n=int(input("Enter the Number of Rows"))
for i in range(0,n):
    for j in range (0,i):
        print("*",end="")
    print()
for i in range(n,0,-1):
    for j in range (0,i):
        print("*",end="")
    print()
```

Output:

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

14.Code:

```
n = int(input("Enter the number of rows "))
# n=5
for i in range(n,0,-1):
    for j in range (0,i):
        print("*",end="")
    print()
for i in range(0,n):
    for j in range (0,i+1):
        print("*",end="")
    print()
```

Output:

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

15.Code:

```
rows = int(input("Enter the number of rows "))
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-=1
        j+=2
```

Output:

```
*****
*****  *****
*****  _  *****
*****  _  *****
****   _  ****
***   _  ***
**   _  **
*   _  *
```