

Task 1

Machine Learning and Deep learning Summer Internship

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Write code in python to print following patterns:-

Pattern 1

```
55555
5555
555
55
5
```

In []:

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

Pattern 2

```
012345
01234
0123
012
01
01
```

In []:

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

Pattern 3

```
1
33
555
7777
99999
```

In []:

```
val = 5
i = 1
```

```

while i <= val:
    j = 1
    while j <= i:
        print((i * 2 - 1), end=" ")
        j = j + 1
    i = i + 1
    print('')

```

Pattern 4

```

1
21
321
4321
54321

```

In []:

```

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

```

Pattern 5

```

1
32
654
10987

```

In []:

```

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

```

Pattern 6

```

1
11
121
1331
14641
15101051
1615201561

```

In []:

```

def catch_num(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 = 7
for i in range(0, size):

```

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

Pattern 7

```
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 []:

```
for i in range(1, 6):
    for j in range(1, 6):
        if j <= i:
            print(i, end=' ')
        else:
            print(j, end=' ')
    print()
```

Pattern 8

```
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 []:

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

Pattern 9

```

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

```

In []:

```
for i in range(6, 0, -1):
    print(" "*(6-i)+"* "*i)
```

Pattern 10

```

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

```

In []:

```

for i in range(1,8):
    print(" "* (8-i) + "*" + "*" * i)

```

Pattern 11

```

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

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

```

In []:

```

for i in range(0, 6):
    for j in range(0, i + 1):
        print("*", end=' ')
    print(" ")

print(" ")

for i in range(7, 0, -1):
    for j in range(0, i - 1):
        print("*", end=' ')
    print(" ")

```

Pattern 12

```

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

```

In []:

```

for i in range(0, 5):

```

```

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

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

```

Pattern 13

```

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

```

In []:

```

for i in range(1, 6):
    print(" "*(5-i)+"* "*i)
for i in range(4, 0, -1):
    print(" "*(5-i)+"* "*i)

```

Pattern 14

```

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

```

In []:

```

for i in range(5, 0, -1):
    print(" "*(5-i)+"* "*i)
for i in range(1, 6):
    print(" "*(5-i)+"* "*i)

```

Pattern 15

```

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

```

```
  ** _____ **  
  * _____ *
```

In []:

```
for i in range(8,0,-1):  
    for j in range(i,0,-1):  
        print('*', end='')  
    for k in range(8,i,-1):  
        print('_', end='')  
    for l in range(0,i):  
        print('*',end='')  
    print(" ")
```

Thank You