In [ ]:

```
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```

In [ ]:

```
Pattern 1
```

In [1]:

```python
for i in range(5):
    print("*" * 5)
```

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

In [3]:

```python
for i in range(1, 6):
    print(str(i) * 5)
```

```
11111
22222
33333
44444
55555
```

In [4]:

```python
for i in range(5):
    print("12345")
```

```
12345
12345
12345
12345
12345
```

In [5]:

```python
for i in range(5, 0, -1):
    print(str(i) * 5)
```

```
55555
44444
33333
22222
11111
```

In [6]:

```python
for i in range(5):
    print(chr(ord('A') + i) * 5)
```

```
AAAAA
BBBBB
CCCCC
DDDDD
EEEEE
```

In [9]: ▶|
```python
for i in range(ord('E'), ord('A') -1, -1):
    print(chr(i) * 5)
```

```
EEEEE
DDDDD
CCCCC
BBBBB
AAAAA
```

In [ ]: ▶|
```python
Pattern 2
```

In [10]: ▶|
```python
for i in range(1, 6):
    print('*' * i)
```

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

In [11]: ▶|
```python
for i in range(1, 6):
    print(str(i) * i)
```

```
1
22
333
4444
55555
```

In [12]: ▶|
```python
for i in range(1, 6):
    for j in range(1, i + 1):
        print(j, end='')
    print()
```

```
1
12
123
1234
12345
```

In [13]: ▶|
```python
for i in range(5):
    print(chr(ord('A') + i) * (i + 1))
```

```
A
BB
CCC
DDDD
EEEEE
```

In [14]: ▶|
```python
for i in range(5):
    for j in range(i + 1):
        print(chr(ord('A') + j), end='')
    print()
```

```
A
AB
ABC
ABCD
ABCDE
```

In [15]: ▶|
```python
word = "PRABHU"
for i in range(len(word)):
    print(word[:i+1])
```

```
P
PR
PRA
PRAB
PRABH
PRABHU
```

In [ ]: ▶|
```
Pattern 3
```

In [16]: ▶|
```python
for i in range(5, 0, -1):
    print('*' * i)
```

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

In [1]: ▶|
```python
for i in range(1, 6):
    print(str(i) * (6 - i))
```

```
11111
2222
333
44
5
```

In [28]: ▶|
```python
for i in range(5, 0, -1):
    print(''.join(map(str, range(1, i+1))))
```

```
12345
1234
123
12
1
```

In [31]: ▶|
```python
for i in range(ord('A'), ord('F')):
    print(chr(i) * (ord('F') - i))
```

```
AAAAA
BBBB
CCC
DD
E
```

In [30]: ▶|
```python
for i in range(5, 0, -1):
    print(''.join(chr(65 + j) for j in range(i)))
```

```
ABCDE
ABCD
ABC
AB
A
```

In [33]: ▶|
```python
for i in range(5, 0, -1):
    print(chr(65 + i - 1) * i)
```

```
EEEEE
DDDD
CCC
BB
A
```

In [34]: ▶|
```python
for i in range(5, 0, -1):
    print(''.join(chr(69 - j) for j in range(i)))
```

```
EDCBA
EDCB
EDC
ED
E
```

In [35]: ▶|
```python
word = "PRABHU"
for i in range(len(word), 0, -1):
    print(word[:i])
```

```
PRABHU
PRABH
PRAB
PRA
PR
P
```

In [ ]: ▶|
```
Pattern 4
```

In [38]:
```python
for i in range(5):
    print(" " * (5 - i - 1) + "*" * (i + 1))
```

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

In [39]:
```python
for i in range(5):
    print(" " * (5 - i - 1) + str(i + 1) * (i + 1))
```

```
    1
   22
  333
 4444
55555
```

In [2]:
```python
for i in range(1, 6):
    print(" " * (5-i)+"".join(str(j)for j in range(1, i+1)))
```

```
    1
   12
  123
 1234
12345
```

In [3]:
```python
for i in range(65, 70):
        print(" "*(70-i)+"".join(chr(j)for j in range(65,i+1)))
```

```
     A
    AB
   ABC
  ABCD
 ABCDE
```

In [51]:
```python
for i in range(65, 70):  # ASCII codes for letters A to E
    print(" " * (69 - i) + chr(i) * (i - 64))
```

```
    A
   BB
  CCC
 DDDD
EEEEE
```

In [52]: ▶|
```python
word = "PRABHU"
for i in range(len(word)):
    print(" " * (len(word) - i - 1) + word[:i + 1])
```

```
     P
    PR
   PRA
  PRAB
 PRABH
PRABHU
```

In [ ]: ▶|
```
Pattern 5
```

In [4]: ▶|
```python
for i in range(5, 0, -1):
    print(" " * (5-i)+"*"*i)
```

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

In [5]: ▶|
```python
for i in range(5, 0, -1):
    print(" " * (5-i)+str(i)* i)
```

```
55555
 4444
  333
   22
    1
```

In [6]: ▶|
```python
for i in range(5, 0, -1):
    print(" " * (5-i)+"".join(str(j)for j in range(1, i+1)))
```

```
12345
 1234
  123
   12
    1
```

In [7]: ▶|
```python
for i in range(69, 64, -1):
    print(" " * (69-i)+chr(i)*(i-63))
```

```
EEEEE
 DDDDD
  CCCC
   BBB
    AA
```

In [10]: ▶
```python
for i in range(5, 0, -1):
    print(" " * (5 - i) +"".join(chr(j) for j in range(65, 65+i)))
```

```
ABCDE
 ABCD
  ABC
   AB
    A
```

In [ ]: ▶
```
Pattern 6
```

In [11]: ▶
```python
for i in range(1,6):
    print(" " * (5-i)+"*"*(2*i-1))
```

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

In [14]: ▶
```python
for i in range(1, 6):
    print(" " * (5-i) + str(i) * (2 * i - 1))
```

```
    1
   222
  33333
 4444444
555555555
```

In [15]: ▶
```python
for i in range(1, 6):
    print(" " * (5 - i) + str(2 * i - 1) * (2 * i -1))
```

```
    1
   333
  55555
 7777777
999999999
```

In [16]: ▶
```python
for i in range(1, 6):
    print(" " * (5 - i) + "".join(str(j) for j in range(1, 2 * i)))
```

```
    1
   123
  12345
 1234567
123456789
```

In [17]:

```
i in range(1, 6):
    print(" " * (5 - i) + "".join(str(j) for j in range(2 * i, 0, -1)) + "")
```

```
       21
      4321
     654321
    87654321
  10987654321
```

In [19]:

```
for i in range (65, 70, 2):
    print(" " * ((70 - i) // 2) + chr(i) * (i - 64))
```

```
  A
 CCC
EEEEE
```

In [20]:

```
for i in range (65, 70):
    print(" " * (70 - i) + "".join(chr(j) for j in range(i, 64, -1)) + "")
```

```
    A
   BA
  CBA
 DCBA
EDCBA
```

In [ ]:

```
Pattern 7
```

In [21]:

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

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

In [23]: ▶|
```python
word = "PRABHU"
for i in range (1, len(word) + 1):
    print(word[:i])
for i in range (len(word), 0, -1):
    print(word[:i])
```

```
P
PR
PRA
PRAB
PRABH
PRABHU
PRABHU
PRABH
PRAB
PRA
PR
P
```

In [27]: ▶|
```python
n = int(input("Enter the number of lines to be printed: "))
for i in range(n):
    for j in range (n - i):
        print("*", end="")
    for k in range (2* (n - j)):
        print(" ", end="")
    for j in range(n - i):
        print("*", end="")
    print ()
```

```
Enter the number of lines to be printed: 5
*****  *****
****    ****
***      ***
**        **
*          *
```

In [29]: ▶|
```python
n = int(input ("Enter the number of lines to be printed: "))
for i in range(n - 1, -1, -1):
    for j in range (n-i):
        print("*", end="")
    for k in range(2* (n - j)):
        print(" ", end="")
    for j in range (n-i):
        print("*", end="")
    print ()
```

```
Enter the number of lines to be printed: 5
*          *
**        **
***      ***
****    ****
*****  *****
```

In [30]:
```python
n = int(input("Enter the number of lines to be printed: "))
#upper half
for i in range(n):
    for j in range (n - i):
        print("*", end="")
    for k in range (2* (n - j)):
        print(" ", end="")
    for j in range(n - i):
        print("*", end="")
    print ()
#lower half
for i in range(n - 1, -1, -1):
    for j in range (n-i):
        print("*", end="")
    for k in range(2* (n - j)):
        print(" ", end="")
    for j in range (n-i):
        print("*", end="")
    print ()
```

```
Enter the number of lines to be printed: 5
*****  *****
****    ****
***      ***
**        **
*          *
*          *
**        **
***      ***
****    ****
*****  *****
```

In [ ]: