1. Right Angle Triangle Pattern

In [15]:
```
print('Method 1')

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

print('Method 2')

for i in range(5):
    for j in range(5):
        if i >= j:
            print("*", end=" ")
    print()

print('Method 3')

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

```
Method 1
*
* *
* * *
* * * *
* * * * *
Method 2
*
* *
* * *
* * * *
* * * * *
Method 3
*
* *
* * *
* * * *
* * * * *
```

2. Inverted Right Angled Triangle

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

print('Method 2')
```

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

```
Method 1
*  *  *  *  *
*  *  *  *
*  *  *
*  *
*
Method 2
*  *  *  *  *
*  *  *  *
*  *  *
*  *
*
```

3. Pyramid Patterns

In [25]:
```
print('Method 1')
for i in range(5):
  for j in range(2*i+1):
    print('*', end = "  ")
  print()
```

```
Method 1
*
*  *  *
*  *  *  *  *
*  *  *  *  *  *  *
*  *  *  *  *  *  *  *  *
```

4.Inverted Pyramid Patterns

In [26]:
```
print('Method 1')
for i in range(5,-1,-1): #here we take the stop index as -1 so that it will go upto
  for j in range(2*i+1):
    print('*', end = "  ")
  print()
```

```
Method 1
*  *  *  *  *  *  *  *  *  *  *
*  *  *  *  *  *  *  *  *
*  *  *  *  *  *  *
*  *  *  *  *
*  *  *
*
```

5.Diamond Pttern

In [27]:
```
print('Method 1')
for i in range(5,-1,-1): #here we take the stop index as -1 so that it will go upto
  for j in range(2*i+1):
```

```
    print('*', end = "  ")
  print()
```

```
Method 1
*  *  *  *  *  *  *  *  *  *  *
*  *  *  *  *  *  *  *  *
*  *  *  *  *  *  *
*  *  *  *  *
*  *  *
*
```

6.Hallow Square Pattern

In [28]:
```
for i in range(5):
  for j in range(5):
    if i == 0 or i == 4 or j == 0 or j == 4:
      print('*', end='')
    else:
      print(' ', end='')
  print()
```

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

7.Full Square Pattern

In [29]:
```
for i in range(5):
  for j in range(5):
    print(' * ', end = " ")
  print()
```

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

8.Right Angle Triangle (Number Pattern)

In [30]:
```
for i in range(5):
  for j in range(i+1):
    if i>=j:
      print(j+1, end = " ")
  print()
```

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

9.Inverted Right Angle Triangle(Number Pattern)

In [31]:
```
for i in range(5,-1,-1):
  for j in range(i+1):
    if i>=j:
      print(j+1, end =" ")
  print()
```

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

10.Floyd's Triangle

In [32]:
```
num =1
for i in range(1,6):
  for j in range(1, i+1):
    print(num, end = ' ')
    num+=1

  print()
```

```
1
2 3
4 5 6
7 8 9 10
11 12 13 14 15
```

11.Hallow Right Angle Triangle

In [33]:
```
for i in range(1,6):
  for j in range(1,i+1):
    if j==1 or j == i or i==5:
      print('*', end = ' ')
    else:
      print(' ', end = ' ')
  print()
```

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

12.(A) Hallow Pyramid Pattern

In [34]:
```
for i in range(1,6):
  for j in range(5-i):
```

```
    print(' ', end = ' ')
  for j in range(2*i-1):
    if j == 0 or j == 2*i-2 or i ==5:
      print('*', end = ' ')
    else:
      print(' ', end = ' ')
  print()
```

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

12(B) Inverted Hallow Pyramid Pattern

In [35]:
```
for i in range(5, 0, -1):
    for j in range(5 - i):
        print(' ', end=' ')
    for j in range(2 * i - 1):  # row width
        if j == 0 or j == 2 * i - 2 or i == 5:  # borders or top row
            print('*', end=' ')
        else:
            print('-', end=' ')
    print()
```

```
* * * * * * * * *
  * - - - - - *
    * - - - *
      * - *
        *
```

In [36]:
```
for i in range(5, 0, -1):
    for j in range(5 - i):
        print(' ', end=' ')
    for j in range(2 * i - 1):  # row width
        if j == 0 or j == 2 * i - 2 or i == 5:  # borders or top row
            print('*', end=' ')
        else:
            print(' ', end=' ')
    print()
```

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

13. Hallow Diamond Pattern

In [37]:
```
for i in range(1,6):
  for j in range(5-i):
    print(' ', end = ' ')
  for j in range(2*i-1):
```

```
    if j == 0 or j == 2*i-2 or i ==5:
      print('*', end = ' ')
    else:
      print(' ', end = ' ')
  print()

for i in range(5, 0, -1):
    for j in range(5 - i):
        print(' ', end=' ')
    for j in range(2 * i - 1):  # row width
        if j == 0 or j == 2 * i - 2 or i == 5:  # borders or top row
            print('*', end=' ')
        else:
            print(' ', end=' ')
    print()
```

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

In [38]:
```
for i in range(1,6):
  for j in range(5-i):
    print(' ', end = ' ')
  for j in range(2*i-1):
    if j == 0 or j == 2*i-2: #removed the condition i == 5
      print('*', end = ' ')
    else:
      print(' ', end = ' ')
  print()

for i in range(4, 0, -1):  #And here instead of starting with 5, start with 4
    for j in range(5 - i):
        print(' ', end=' ')
    for j in range(2 * i - 1):
        if j == 0 or j == 2 * i - 2:  #removed the condition i == 5
            print('*', end=' ')
        else:
            print(' ', end=' ')
    print()
```

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

14. Hallow Diamond Pattern

In [39]:
```
for i in range(1,6):
  for j in range(5-i):
    print(' ', end = ' ')
  for j in range(2*i-1):
    if j == 0 or j == 2*i-2:
      print(i, end = ' ')
    else:
      print(' ', end = ' ')
  print()

for i in range(4, 0, -1):
    for j in range(5 - i):
        print(' ', end=' ')
    for j in range(2 * i - 1):
        if j == 0 or j == 2 * i - 2:
            print(i, end=' ')
        else:
            print(' ', end=' ')
    print()
```

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

15. Butterfuly Pattern

In [40]:
```
n = 5

# Upper part
for i in range(1, n + 1):
    for j in range(1, i + 1):
        print(j, end=' ')
    for j in range(2 * (n - i)):
        print(' ', end=' ')
    for j in range(1, i + 1):
        print(j, end=' ')
    print()

# Lower part
for i in range(n, 0, -1):
    for j in range(1, i + 1):
        print(j, end=' ')
    for j in range(2 * (n - i)):
        print(' ', end=' ')
    for j in range(1, i + 1):
```

```
        print(j, end=' ')
    print()
```

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

In [41]:
```
n = 5

# Upper part
for i in range(1, n + 1):
    for j in range(1, i + 1):
        print('*', end=' ')
    for j in range(2 * (n - i)):
        print(' ', end=' ')
    for j in range(1, i + 1):
        print('*', end=' ')
    print()

# Lower part
for i in range(n, 0, -1):
    for j in range(1, i + 1):
        print('*', end=' ')
    for j in range(2 * (n - i)):
        print(' ', end=' ')
    for j in range(1, i + 1):
        print('*', end=' ')
    print()
```

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

16. Hallow Number Pyramid

In [55]:
```
for i in range(1,6):
  for j in range(5-i):
    print(' ', end = ' ')
  for j in range(2*i-1):
    if j == 0 or j == 2*i-2 or i ==5:
      print(i, end = ' ')
```

```
    else:
      print(' ', end = ' ')
  print()
```

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

17. Full Star Pyramid

In [56]:
```
for i in range(6):
  for j in range(6-i):
    print('-',end=" ")

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

```
- - - - - -
- - - - - *
- - - - * * *
- - - * * * * *
- - * * * * * * *
- * * * * * * * * *
```

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

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

  print()
```

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

In [58]:
```
for i in range(6):
  for j in range(6-i):
    print('',end =" ") #if we dont give the space here it will print the triangl li

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

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

18.Inverted Full Star Pyramid

In [59]:
```
for i in range(5,0,-1):
  for j in range(5-i):
    print('-',end =" ")

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

```
* * * * * * * * *
- * * * * * * * *
- - * * * * * *
- - - * * * *
- - - - *
```

In [60]:
```
for i in range(5,0,-1):
  for j in range(5-i):
    print(' ',end =" ")

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

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

19. Left Aligned Pyramid Pattern

In [61]:
```
for i in range(6):
  for j in range(i):
    print('*', end =' ')
  print()


for i in range(6):
  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
1 2 3 4 5 6
```

20. Right Aligned Pyramid

In [62]:
```
for i in range(5):
  for j in range(5-i):
      print('-', end = " ")
  print()
```

```
- - - - -
- - - -
- - -
- -
-
```

In [63]:
```
for i in range(6):
  for j in range(6-i):
      print('-', end =" ")

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

```
- - - - - -
- - - - - *
- - - - * *
- - - * * *
- - * * * *
- * * * * *
```

In [64]:
```
for i in range(6):
  for j in range(6-i):
      print(' ', end =" ")

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

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

In [65]:
```
for i in range(6):
  for j in range(6-i):
      print('-', end =" ")

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

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

In [66]:
```
for i in range(6):
  for j in range(6-i):
    print(' ', end =" ")

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

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

In [ ]: