

## Problem 1

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

Print the following pattern.

There are no spaces between

consecutive stars. There are no spaces at the end of each line. Note: Do not worry about the \n that you observe in the expected output. It can be ignored.

```
In [33]: for i in range(1,6):  
         print(i*"*" + (5-i)*" ")
```

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

## Problem 2

```
1.  *****  
    *****  
    *****  
    *****  
    *****
```

Print the following pattern.

```
In [38]: for i in range(1,6):  
         print(5*" "*i)
```

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

## Problem 3

```
3.  *****
      *****
      ****
      ***
      **
      *
```

Print the following pattern.

```
In [39]: for i in range(1,6):
          print((6-i)*"****")
```

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

## Problem 4

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

Print the following pattern.

```
In [52]: for i in range(1,6):           # The outer loop iterating from 1 to 5.
          for j in range(1,i+1):       # The inner loop printing numbers from 1 to the current val
              print(j,end=" ")
          print()                       # After each iteration of the inner loop, a newline is printed
```

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

## Problem 5

```
5.  *
      **
      ***
      ****
      *****
      *****
      ****
      ***
      **
      *
```

Print the following pattern.

```
In [56]: for i in range(1,6):
          print(i*"****")
```

```
for j in range(1,5):
    print((5-j)*" "*1)
```

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

## Problem 6

```
6.      *
        **
       ***
      ****
     *****
```

Print the following pattern.

```
In [58]: for i in range(1,6):
          print((5-i)*" " + i*" "*1)
```

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

## Problem 7

```
7.      *****
        *****
       *****
      *****
     *****
    *****
   *****
  *****
 *****
*****
```

Print the following pattern.

```
In [59]: for i in range(1,6):
          print((i-1)*" " + (6-i)*" "*1)
```

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

## Problem 8

```

8.      *
        ***
       *****
      ********
     **********
    **********

```

Print the following pattern.

```

In [64]: for i in range (1,6):
          print((5-i)*" " +(2*i-1)*"*" +(5-i)*" ")

```

```

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

```

## Problem 9

```

9.  *****
    *****
   *****
  *****
 *****

```

Print the following pattern.

```

In [70]: for i in range (1,6):
          print((i-1)*" " +(5-i)*"*" + "*" +(5-i)*"*" +(i-1)*" ")

```

```

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

## Problem 10

```

10.      *
        * *
       * * *
      * * * *
     * * * * *

```

Print the following pattern.

```

In [89]: for i in range(1, 6):
          print((5-i)*" " + "*" * i)

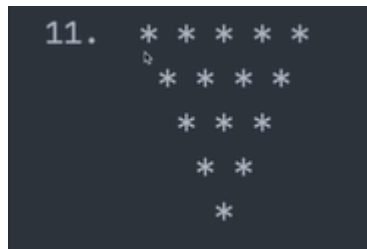
```

```

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

```

## Problem 11



Print the following pattern.

```
In [75]: for i in range(1, 6):
          print((i-1)*' ' + (6-i)*'*' + (i-1)*' ')
```

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

## Problem 12



Print the following pattern.

```
In [77]: for i in range(1, 6):
          print((i-1)*' ' + (6-i)*'*' + (i-1)*' ')
          for j in range(1, 6):
              print((5-j)*' ' + "*" * j)
```

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

## Problem 13

13.

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

Print the following pattern.

```
In [90]: def print_star_pattern():
# List of lines in the pattern
pattern = [
    "  *  ",
    " * * ",
    "*   *",
    " *   ",
    "*     ",
    "*****"
]

# Print each line in the pattern
for line in pattern:
    print(line)

print_star_pattern()
```

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

In [ ]: