CFP-Lab 5

CHALLENGE I

Problem 1

a) Print the following triangles and

b) Their **hollow versions.**

```
(A)                 (B)                 (C)                 (D)
*                   * * * * * * * * * *   * * * * * * * * * *                     *
* *                 * * * * * * * * *     * * * * * * * * *                     * *
* * *               * * * * * * * *       * * * * * * * *                     * * *
* * * *             * * * * * * *         * * * * * * *                     * * * *
* * * * *           * * * * * *           * * * * * *                     * * * * *
* * * * * *         * * * * *             * * * * *                     * * * * * *
* * * * * * *       * * * *               * * * *                     * * * * * * *
* * * * * * * *     * * *                 * * *                     * * * * * * * *
* * * * * * * * *   * *                   * *                     * * * * * * * * *
* * * * * * * * * *  *                     *                     * * * * * * * * * *
```

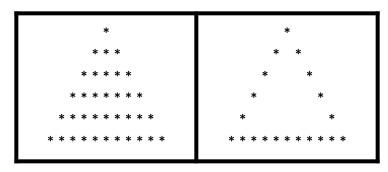### Problem 2 (Equilateral Triangle - Filled and Hollow)

Write a program which takes input from the user, the height **H** and then prints the **filled and hollow** equilateral triangle shape corresponding to the entered input.
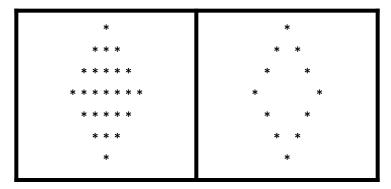
Sample Input: H = 6

Sample Output:

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

Problem 3 (Diamond - Filled and Hollow)

Write a program which takes input from the user, the height **H** of the Diamond and then prints the diamond shape (**filled and hollow**) corresponding to the entered input.

Sample Input: H = 4

Sample Output:

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

Printing Pajama ☺

Write a Program which asks for 4 options menu:

Option 1: It Takes the Dimension and prints the following shape:

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

Option 2: It takes as parameter and prints the following Shape:

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

Option 3: It takes the appropriate parameters and Prints the following shape:

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

option 4: Exit

your program should keep on asking until the user Selects Exit Option

Make hollow shapes pyjamas

CHALLENGE III

1. Print the following shapes H = 5

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

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

```
A
B B
C C C
D D D D
E E E E
```

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

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

```
_____1
____121
___12321
__1234321
_123454321
12345654321
```

*** "_" means space ***|

2. Print these 4 fibonacci pattern **without making fib function**

```
Height: 10
1
1 1
1 1 2
1 1 2 3
1 1 2 3 5
1 1 2 3 5 8
1 1 2 3 5 8 13
1 1 2 3 5 8 13 21
1 1 2 3 5 8 13 21 34
1 1 2 3 5 8 13 21 34 55
```

```
Height: 10
 1
 1   1
 2   1   1
 3   2   1   1
 5   3   2   1   1
 8   5   3   2   1   1
13   8   5   3   2   1   1
21  13   8   5   3   2   1   1
34  21  13   8   5   3   2   1   1
55  34  21  13   8   5   3   2   1   1
```

```
Height: 10
1
1 1
2 2 2
3 3 3 3
5 5 5 5 5
8 8 8 8 8 8
13 13 13 13 13 13 13
21 21 21 21 21 21 21 21
34 34 34 34 34 34 34 34 34
55 55 55 55 55 55 55 55 55 55
```

```
Height: 10
55
34  34
21  21  21
13  13  13  13
 8   8   8   8   8
 5   5   5   5   5   5
 3   3   3   3   3   3   3
 2   2   2   2   2   2   2   2
 1   1   1   1   1   1   1   1   1
 1   1   1   1   1   1   1   1   1   1
```

```
O===O
 \O/
  |
 /\
```

Happy Coding... :)
Good luck