SHEET-2

Pattern Based Questions

Q.1 Write a Program to print a butterfly shape Number pattern.

```
1      7
12    67
123 567
1234567
123 567
12    67
1      7
```

Q.2 Write a Program to print the Fibonacci Half Pyramid Pattern.

```
1
1 2
3 5 8
13 21 34 55
89 144 233 377 610
```

Q.3 Pascal's triangle is a triangular array of the binomial coefficients. Write a function that takes an integer value n as input and prints first n lines of the Pascal's triangle. Following are the first 6 rows of Pascal's Triangle.

```
1

1 1

1 2 1

1 3 3 1

1 4 6 4 1

1 5 10 10 5 1
```

Q.4 Given the value of n, print the arrow pattern.
Input: n = 5

Output:

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

Q.5 Program to print diagonal star patterns.
For the given input, this program prints the following pattern. The input must be an odd number.
Input: 7

Output:

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

```
**    **

*******
```