OOP Lab 5

For each question, a cpp file is given to you with the main function and the required prototypes. Don't modify any prototype. Use recursion only, loops/ static/ global functions not allowed.

Q1: Write a C++ program to calculate the factorial of a given non-negative integer using recursion. The program should:

1. Prompt the user to enter a number.
2. Use a recursive function to compute the factorial of the number.
3. Handle edge cases, such as negative numbers, by displaying an appropriate message.
4. Display the computed factorial as output.

Q2: In the skeleton file, char *ptr is taken as input. You are required to find the length recursively.

Q3: In the skeleton file, display the elements of array in reverse order by using recursion.

```
Displaying array elemets
3 4 5 6 7

Displaying array elemets in reverse order
7 6 5 4 3
```

Q4: Make the following pattern using recursive function.

```
enter rows
5
    *
   *
  *
 *
*
o
 o
  o
   o
    o
```

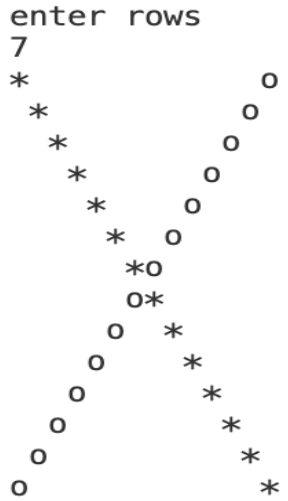
Q5: Implement a recursive function in C++ to check whether an array is sorted or not. **(No Skeleton file available)**

Q6: Write a recursive function to compute the sum of elements of even indices in an array.**(No Skeleton file available)**

Q7: Write a recursive function to find sum of alternating series:**(No Skeleton file available)**

1 - 2 + 3 - 4 + 5 - 6 + 7….. (-1)^(n+1) * n

Q8: Make the following pattern using recursive function.



Q9: Make the following pattern using recursive function.