

Task-1:

Generate the following sequence with recursive approach

1 , 3, 6, 10, 15, 21, 28 . . .

Generate the following sequence with recursive approach

1, 2, 4, 7, 11, 16, 22 . . .

Write a program in C to Print Fibonacci Series using recursion.

Write a program in C++ to count the digits of a given number using recursion

Write a program in C to find the sum of digits of a number using recursion.

Calculate the sum of numbers from 1 to n using recursion

Task-2: Write an indirect recursive code for the above task-1 (a,b) part with same approach as defined in the above sample code of **In-Direct Recursion**

Task 3: Sort The Unsorted Numbers with both tail recursive and Normal recursive approach

Sample Input and Output

Given array is

5 4 3 2 1

Sorted array is

1 2 3 4 5

Task 4: Run the code of nested recursion and draw the stack.

Task-5:

- A. Design the function with recursive approach to find the number of existing destination path in the above provided sample code link
- B. Change the Maze with following configuration. Find the optimal path to reach the destination with recursive approach

```
int maze[N][N] = { { 0, 0, 0, 1 },  
                  { 0, 1, 1, 1 },  
                  { 0, 1, 1, 0 },
```

- C. Design n queen problem using recursive approach.