**Financial Forecasting**

**Understand Recursive Algorithms:**

**Explain the concept of recursion and how it can simplify certain problems.**

Recursion is a method which will be invoked multiple times where it solves the problem

Step by step at last at the end it reaches the base case with solution

Very useful when we need to find different number of possibilities to solve a problem,

As we fetch each and every corner of our problem to get the solution

**Analysis:**

**Discuss the time complexity of your recursive algorithm**.

The time complexity for this problem is O(n) as we make n recursive calls, it took O(n) time complexity

**Explain how to optimize the recursive solution to avoid excessive computation**.

Tail recursion, memorization can be used to optimize the recursive solutions

Tail recursion:

Here the recursive call will be the last operation in the function.

Memorization:

It stores the returned values of function calls inside an array which will be reused when the same function call is made later. This reduces re-computation of values using function calls again and again as it directly returns the value