**Exercise 7: Financial Forecasting**

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

Ans: Recursion is a programming technique where a function calls itself in order to solve a problem. Each recursive call should break the problem into a smaller instance of the same problem, and the process continues until a base condition is met. Once the base condition is reached, the recursive calls start to return results and the full solution is assembled step by step.

Recursion can simplify certain problems by breaking them down into smaller subproblems. It simplifies the logic of problems that have repetitive or nested structures, such as:

* Mathematical computations
* Tree and graph traversal
* Divide and conquer algorithms
* Backtracking problems.