**Exercise 7: Financial Forecasting**

**Understanding Recursive Algorithms**

**Recursion** is like solving a big problem by breaking it down into smaller, simpler problems. Here’s an easy way to think about it:

**Concept**

Imagine you're climbing a staircase. Instead of thinking about the whole staircase, you focus on climbing one step at a time. When you reach the top (base case), you stop. Each step (or recursive call) gets you closer to your goal.

**How It Helps**

Recursion is useful for problems that are similar at every level:

* **Calculating Factorials**: To find the factorial of a number (like 5!), you multiply it by the factorial of the number just below it (4!). You keep doing this until you reach 1.
* **Exploring Trees**: Think of a family tree where each person might have children. To find someone, you start with one person and look at their children, and then their children’s children, and so on.

In short, recursion simplifies solving big problems by breaking them into smaller, similar problems and solving each one step by step.