# Exercise 7: Financial Forecasting

## 1. Understand Recursive Algorithms

* Recursion is a process where a function calls itself.
* It helps break down complex problems into simpler sub-problems.
* Commonly used in problems with repetitive patterns.
* In financial forecasting, recursion helps calculate future values year by year.

## 4. Analysis

Time Complexity:

* The time complexity is O(n), where n is the number of years.
* One recursive call is made for each year.

Optimization:

* Recursion may lead to stack overflow for large values of n.
* Use memoization to store and reuse results.
* Alternatively, use an iterative approach to avoid recursion completely.