**Exercise 7: Financial Forecasting**

**1. Understand Recursive Algorithms**

Recursion is a method that solves a problem by calling itself with smaller inputs.

✅ Useful in problems like future value prediction, Fibonacci, etc.

**2. Setup**

Design a method that calculates future value using:

* Initial amount
* Annual growth rate
* Number of years

**3. Implementation**

👉 Visit the code in the repository to see:

* A recursive solution to calculate future value.
* An optimized version using iteration or memoization.

**4. Analysis**

| **Method** | **Time Complexity** | **Space Complexity** |
| --- | --- | --- |
| Recursive | O(n) | O(n) (stack) |
| Memoized/DP | O(n) | O(n) |

\* Recursive solutions are elegant but can cause stack overflows if not optimized.