

Theory Answers & Output

Data structures and Algorithms

Exercise 7: Financial Forecasting

Recursion solves problems by calling the function itself with smaller inputs. It simplifies problems with repetitive structure like compound growth.

Time Complexity: $O(n)$, where n is the number of years.

Optimization: Use memoization or an iterative approach to improve speed and avoid stack overflow.

Conclusion: Recursion makes implementation easy, but must be optimized for real-world forecasting over large periods.

OUTPUT

```
● PS D:\COGNIZANT\6364376_Week-1\FinancialForecastingExample> dotnet run
Future value after 5 years: 1276.28
○ PS D:\COGNIZANT\6364376_Week-1\FinancialForecastingExample> |
```