**Algorithm and Data Structures:**

**Exercise 7 : Financial Forecasting:**

**Code**:

package coding;

public class FinancialForecast {

public static double futureValueRecursive(double startValue, double[] growthRates, int year) {

if (year == 0) {

return startValue;

}

double previousValue = *futureValueRecursive*(startValue, growthRates, year - 1);

return previousValue \* (1 + growthRates[year - 1]);

}

public static void main(String[] args) {

double startingAmount = 1000.0;

double[] growthRates = {0.05, 0.04, 0.06, 0.03};

int years = growthRates.length;

double futureValue = *futureValueRecursive*(startingAmount, growthRates, years);

System.***out***.println("===== Financial Forecasting Report =====");

System.***out***.println("Initial Investment: $" + startingAmount);

System.***out***.println("Years Forecasted : " + years);

System.***out***.print("Growth Rates : ");

for (double rate : growthRates) {

System.***out***.print((rate \* 100) + "% ");

}

System.***out***.println();

System.***out***.printf("Future Value : $%.2f%n", futureValue);

}

}

Output:

