**Exercise 7: Financial Forecasting**

**Code:**

public class FinancialForecasting {

    // Recursive method to calculate future value

    public static double forecast(double currentValue, double rate, int periods) {

        if (periods == 0) {

            return currentValue;  // base case: no more periods

        }

        return forecast(currentValue \* (1 + rate), rate, periods - 1);

    }

    public static void main(String[] args) {

        double presentValue = 1000.0;  // starting amount

        double growthRate = 0.05;      // 5% growth per period

        int periods = 10;              // 10 periods (e.g. years)

        double futureValue = forecast(presentValue, growthRate, periods);

        System.out.printf("Future Value after %d periods: %.2f%n", periods, futureValue);

    }

}

**Output:**

