**Exercise 7: Financial Forecasting**

**Scenario:**

You are developing a financial forecasting tool that predicts future values based on past data.

public class FinancialForecasting {

public static double calculateFutureValue(double presentValue, double growthRate, int periods) {

if (periods == 0) {

return presentValue;

}

return calculateFutureValue(presentValue, growthRate, periods - 1) \* (1 + growthRate);

}

public static void main(String[] args) {

double presentValue = 1000.0;

double growthRate = 0.05;

int periods = 10;

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

System.out.printf("Initial Investment: $%.2f%n", presentValue);

System.out.printf("Growth Rate per Period: %.2f%%%n", growthRate \* 100);

System.out.printf("Periods: %d%n", periods);

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

}

}