**Exercise 7: Financial Forecasting**

**Code:**

FinancialForecast.java

**package** financeforecast;

**public** **class** FinancialForecast {

**public** **static** **double** futureValueRecursive(**double** presentValue, **double** rate, **int** years) {

**if** (years == 0) {

**return** presentValue;

}

**return** *futureValueRecursive*(presentValue, rate, years - 1) \* (1 + rate);

}

**public** **static** **double** futureValueIterative(**double** presentValue, **double** rate, **int** years) {

**double** result = presentValue;

**for** (**int** i = 0; i < years; i++) {

result \*= (1 + rate);

}

**return** result;

}

}

Main.java

**package** financeforecast;

**public** **class** Main {

**public** **static** **void** main(String[] args) {

**double** presentValue = 10000;

**double** rate = 0.08;

**int** years = 5;

**double** recursiveResult = FinancialForecast.*futureValueRecursive*(presentValue, rate, years);

**double** iterativeResult = FinancialForecast.*futureValueIterative*(presentValue, rate, years);

System.***out***.printf("🔁 Recursive Future Value after %d years: ₹%.2f%n", years, recursiveResult);

System.***out***.printf("🔂 Iterative Future Value after %d years: ₹%.2f%n", years, iterativeResult);

}

}

OUTPUT:

