public class Main {  
 public static void main(String[] args) {  
 double presentValue = 10000.0;

double annualRate = 0.08;

int years = 5;  
 double futureValue = FutureValueCalculator.*calculateFutureValue*(presentValue, annualRate, years);  
 System.*out*.printf("Future Value (Recursion): ₹%.2f%n", futureValue);  
 Double[] memo = new Double[years + 1];  
 double futureValueMemo = FutureValueCalculator.*calculateFutureValueMemo*(presentValue, annualRate, years, memo);  
 System.*out*.printf("Future Value (Memoized): ₹%.2f%n", futureValueMemo);  
 }  
}

public class FutureValueCalculator {  
 public static double calculateFutureValue(double presentValue, double rate, int years) {  
 if (years == 0) {  
 return presentValue;  
 }  
 return (1 + rate) \* *calculateFutureValue*(presentValue, rate, years - 1);}  
 public static double calculateFutureValueMemo(double presentValue, double rate, int years, Double[] memo) {  
 if (years == 0) return presentValue;  
 if (memo[years] != null) return memo[years];  
 memo[years] = (1 + rate) \* *calculateFutureValueMemo*(presentValue, rate, years - 1, memo);  
 return memo[years];  
 } }

OUTPUT:

