import java.util.ArrayList;

import java.util.List;

public class FinancialForecast {

private List<Double> revenueHistory;

public FinancialForecast() {

revenueHistory = new ArrayList<>();

}

public void addMonthlyRevenue(double revenue) {

revenueHistory.add(revenue);

}

public double forecastNextMonth(int months) {

if (revenueHistory.size() < months) {

throw new IllegalArgumentException("Not enough data for the given moving average window.");

}

double sum = 0.0;

int startIndex = revenueHistory.size() - months;

for (int i = startIndex; i < revenueHistory.size(); i++) {

sum += revenueHistory.get(i);

}

return sum / months;

}

public void showRevenueHistory() {

System.out.println("Revenue History:");

for (int i = 0; i < revenueHistory.size(); i++) {

System.out.println("Month " + (i + 1) + ": $" + revenueHistory.get(i));

}

}

}

import java.util.Scanner;

public class Main {

public static void main(String[] args) {

FinancialForecast forecast = new FinancialForecast();

Scanner scanner = new Scanner(System.in);

System.out.print("Enter number of months of past revenue data: ");

int totalMonths = scanner.nextInt();

for (int i = 1; i <= totalMonths; i++) {

System.out.print("Enter revenue for month " + i + ": $");

double revenue = scanner.nextDouble();

forecast.addMonthlyRevenue(revenue);

}

forecast.showRevenueHistory();

System.out.print("Enter number of months to use for moving average forecast: ");

int averageMonths = scanner.nextInt();

try {

double predicted = forecast.forecastNextMonth(averageMonths);

System.out.printf("Forecasted revenue for next month: $%.2f\n", predicted);

} catch (IllegalArgumentException e) {

System.out.println("Error: " + e.getMessage());

}

}

}

OUTPUT:

Enter number of months of past revenue data: 6

Enter revenue for month 1: $10000

Enter revenue for month 2: $20000

Enter revenue for month 3: $30000

Enter revenue for month 4: $40000

Enter revenue for month 5: $50000

Enter revenue for month 6: $60000

Revenue History:

Month 1: $10000.0

Month 2: $20000.0

Month 3: $30000.0

Month 4: $40000.0

Month 5: $50000.0

Month 6: $60000.0

Enter number of months to use for moving average forecast: 4

Forecasted revenue for next month: $45000.00