# INF 2105: Practical Session 5 Solutions

## Task 1: Average Grades and Count of "A"s

import java.util.Scanner;  
  
public class Task1 {  
 public static void main(String[] args) {  
 Scanner scanner = new Scanner(System.in);  
  
 System.out.print("Enter the number of students: ");  
 int numStudents = scanner.nextInt();  
 if (numStudents <= 0) {  
 System.out.println("The number of students must be greater than zero.");  
 return;  
 }  
  
 int totalScore = 0, countA = 0;  
 for (int i = 0; i < numStudents; i++) {  
 System.out.print("Enter score for student " + (i + 1) + ": ");  
 int score = scanner.nextInt();  
 if (score < 0 || score > 100) {  
 System.out.println("Invalid score. Please enter a value between 0 and 100.");  
 i--; // Repeat the current student  
 continue;  
 }  
 totalScore += score;  
 if (score >= 90) countA++;  
 }  
  
 double average = (double) totalScore / numStudents;  
 System.out.println("Average score: " + average);  
 System.out.println("Number of students with grade A: " + countA);  
 scanner.close();  
 }  
}

## Task 2: Repeated Input Until "done"

import java.util.Scanner;  
  
public class Task2 {  
 public static void main(String[] args) {  
 Scanner scanner = new Scanner(System.in);  
 int total = 0, count = 0;  
  
 while (true) {  
 System.out.print("Enter a number: ");  
 String input = scanner.next();  
 if (input.equalsIgnoreCase("done")) break;  
  
 try {  
 int number = Integer.parseInt(input);  
 total += number;  
 count++;  
 } catch (NumberFormatException e) {  
 System.out.println("Invalid input");  
 }  
 }  
  
 if (count > 0) {  
 double average = (double) total / count;  
 System.out.println("Total is: " + total);  
 System.out.println("Count is: " + count);  
 System.out.println("Average is: " + average);  
 } else {  
 System.out.println("No valid numbers were entered.");  
 }  
 scanner.close();  
 }  
}

## Task 3: Floating-point Values

import java.util.Scanner;  
  
public class Task3 {  
 public static void main(String[] args) {  
 Scanner scanner = new Scanner(System.in);  
 double sum = 0, max = Double.MIN\_VALUE, min = Double.MAX\_VALUE;  
  
 System.out.println("Enter 20 floating-point values:");  
 for (int i = 0; i < 20; i++) {  
 System.out.print("Enter value " + (i + 1) + ": ");  
 double value = scanner.nextDouble();  
 sum += value;  
 if (value > max) max = value;  
 if (value < min) min = value;  
 }  
  
 double average = sum / 20;  
 System.out.println("Sum: " + sum);  
 System.out.println("Average: " + average);  
 System.out.println("Maximum: " + max);  
 System.out.println("Minimum: " + min);  
 scanner.close();  
 }  
}

## Task 4: Separate Digits of a Number

import java.util.Scanner;  
  
public class Task4 {  
 public static void main(String[] args) {  
 Scanner scanner = new Scanner(System.in);  
  
 System.out.print("Enter a 5-digit number: ");  
 int number = scanner.nextInt();  
  
 if (number < 10000 || number > 99999) {  
 System.out.println("Invalid input. Please enter a 5-digit number.");  
 return;  
 }  
  
 String numberStr = Integer.toString(number);  
 for (char digit : numberStr.toCharArray()) {  
 System.out.print(digit + " ");  
 }  
 scanner.close();  
 }  
}

## Task 5: Number Properties

import java.util.Scanner;  
  
public class Task5 {  
 public static void main(String[] args) {  
 Scanner scanner = new Scanner(System.in);  
  
 System.out.print("Enter a number: ");  
 int number = scanner.nextInt();  
  
 int sum = 0, numDigits = 0, largestDigit = Integer.MIN\_VALUE;  
 int reverse = 0, temp = number;  
  
 while (temp > 0) {  
 int digit = temp % 10;  
 sum += digit;  
 numDigits++;  
 if (digit > largestDigit) largestDigit = digit;  
 reverse = reverse \* 10 + digit;  
 temp /= 10;  
 }  
  
 System.out.println("Sum of digits: " + sum);  
 System.out.println("Number of digits: " + numDigits);  
 System.out.println("Reverse of the number: " + reverse);  
 System.out.println("Largest digit: " + largestDigit);  
 scanner.close();  
 }  
}