**SETA**

**Question 1:** Tom loves stargazing at night. One night, he decides to count the number of stars he sees in the sky and find some patterns. Tom starts counting, but he gets tired quickly and wants to automate the process.

Write a Java program that helps Tom count the stars in the sky and find the patterns. The program should prompt Tom to enter the number of stars he sees in the sky each night. Tom can enter the number of stars each night until he decides to stop counting by entering -700. Once Tom is done counting, the program should display the total number of stars he counted, the average stars per night, number of nights with odd numbers of stars, number of nights with even number of stars. The program should also print “Even Steven” if the number of nights with the even number of stars is greater than the number of nights with odd numbers of stars and the program should print “Odd Todd” if the opposite is true. **[10]**

| **Sample Input 01:**  Enter the number of stars you see in the sky each night (-700 to stop counting):  Night 1: 14  Night 2: 12  Night 3: 5  Night 4: 7  Night 5: 16  Night 6: -700 | **Sample Output 01:**  Total number of stars counted: 54  Average number of stars per night: 10.80  Number of nights with odd number of stars: 2  Number of nights with even number of stars: 3  Even Steven |
| --- | --- |

| **Sample Input 02:**  Enter the number of stars you see in the sky each night (-700 to stop counting):  Night 1: 7  Night 2: 9  Night 3: 2  Night 4: -700 | **Sample Output 02:**  Total number of stars counted: 18  Average number of stars per night: 6.00  Number of nights with odd number of stars: 2  Number of nights with even number of stars: 1  Odd Todd |
| --- | --- |

**Solution of SETA:**

import java.util.Scanner;

public class StarCountingProgram {

public static void main(String[] args) {

Scanner sc = new Scanner(System.in);

int totalStars = 0;

int nightCount = 0;

int oddNights = 0;

int evenNights = 0;

System.out.println("Welcome to the Star Counting Program!");

System.out.println("Enter the number of stars you see in the sky each night (-700 to stop counting):");

while (true) {

System.out.print("Night " + (nightCount + 1) + ": ");

int starsInNight = sc.nextInt();

if (starsInNight == -700) {

break;

}

totalStars += starsInNight;

nightCount++;

if (starsInNight % 2 == 0) {

evenNights++;

} else {

oddNights++;

}

}

System.out.println("\nTotal number of stars counted: " + totalStars);

double averageStarsPerNight = (double) totalStars / nightCount;

System.out.printf("Average number of stars per night: %.2f\n", averageStarsPerNight);

System.out.println("Number of nights with odd number of stars: " + oddNights);

System.out.println("Number of nights with even number of stars: " + evenNights);

if (evenNights > oddNights) {

System.out.println("Even Steven");

} else {

System.out.println("Odd Todd");

}

sc.close();

}

}

**SETB**

**Question 1:** Tom loves stargazing at night. One night, he decides to count the number of stars he sees in the sky and find some patterns. Tom starts counting, but he gets tired quickly and wants to automate the process.

Write a Java program that helps Tom count the stars in the sky and find the patterns. The program should prompt Tom to enter the number of stars he sees in the sky each night. Tom can enter the number of stars each night until he decides to stop counting by entering -700. Once Tom is done counting, the program should display the total number of stars he counted, the average stars per night, number of nights with odd numbers of stars, number of nights with even number of stars. The program should also print “Even Steven” if the number of nights with the even number of stars is greater than the number of nights with odd numbers of stars and the program should print “Odd Todd” if the opposite is true. **[10]**

| **Sample Input 01:**  Enter the number of stars you see in the sky each night (-700 to stop counting):  Night 1: 14  Night 2: 12  Night 3: 5  Night 4: 7  Night 5: 16  Night 6: -700 | **Sample Output 01:**  Total number of stars counted: 54  Average number of stars per night: 10.80  Number of nights with odd number of stars: 2  Number of nights with even number of stars: 3  Even Steven |
| --- | --- |

| **Sample Input 02:**  Enter the number of stars you see in the sky each night (-700 to stop counting):  Night 1: 7  Night 2: 9  Night 3: 2  Night 4: -700 | **Sample Output 02:**  Total number of stars counted: 18  Average number of stars per night: 6.00  Number of nights with odd number of stars: 2  Number of nights with even number of stars: 1  Odd Todd |
| --- | --- |

**Solution of SETB:**

import java.util.Scanner;

public class TemperatureTracker {

public static void main(String[] args) {

Scanner scanner = new Scanner(System.in);

int totalDays = 0;

int totalTemperature = 0;

int hotDays = 0;

int coldDays = 0;

System.out.println("Enter the temperature each day (-999 to stop):");

while (true) {

System.out.print("Enter temperature for day " + (totalDays + 1) + ": ");

int temperature = scanner.nextInt();

if (temperature == -999) {

break;

}

totalTemperature += temperature;

totalDays++;

if (temperature > 40) {

hotDays++;

} else if (temperature < 10) {

coldDays++;

}

}

double averageTemperature = (double) totalTemperature / totalDays;

System.out.println("Total number of days recorded: " + totalDays);

System.out.printf("Average temperature per day: %.2f\n", averageTemperature);

System.out.println("Number of days with temperatures above 40°C: " + hotDays);

System.out.println("Number of days with temperatures below 10°C: " + coldDays);

if (hotDays > coldDays) {

System.out.println("Torrid");

} else if (coldDays > hotDays) {

System.out.println("Frigid");

}

scanner.close();

}

}