**Question 1**

import java.util.Scanner;

/\*\*

\* Write a program that reads an integer value and prints the sum of all even

\* integers between 2 and the input value, inclusive. Print an error message if

\* the input value is less than 2. Prompt accordingly.

\*/

public class Question1 {

public static void main(String[] args) {

Scanner sc = new Scanner(System.in);

System.out.println("Enter a integer number: ");

int N = sc.nextInt();

if (N < 2) {

System.out.println("ERROR: Number " + N + " is smaller than 2.");

} else {

int sumEven = 0;

for(int i = 2; i <= N; i ++) {

if (i % 2 == 0) {

sumEven += i;

}

}

System.out.println("SUM: " + sumEven);

}

}

}

**Question 2**

import java.util.Scanner;

/\*\*

\* Write a program that reads a string from the user and prints it one character

\* per line. \*

\*/

public class Question2 {

public static void main(String[] args) {

Scanner sc = new Scanner(System.in);

System.out.print("Enter the sentence: ");

String line = sc.nextLine();

for (int i = 0; i < line.length(); i++) {

System.out.println(line.charAt(i));

}

}

}

**Question 3**

import java.util.Scanner;

/\*\*

\* Print the following patterns. Create a separate program to produce each

\* pattern.

\*

\*

\*/

public class Question3 {

public static void main(String[] args) {

// TODO Auto-generated method stub

int num\_stratix = 10;

for (int i = 0; i < 10; i++) {

for (int j = 0; j < num\_stratix; j++) {

System.out.print("\*");

}

num\_stratix--;

System.out.println();

}

num\_stratix = 1;

for(int i = 0; i < 10; i++) {

for(int j = 0; j < 10 - num\_stratix; j++) {

System.out.print(" ");

}

for(int j = 0; j < num\_stratix; j++) {

System.out.print("\*");

}

num\_stratix++;

System.out.println();

}

}

}

**Question 4**

import java.util.Scanner;

/\*\*

\* Write a program that reads a string from the user, then determines and prints

\* how many of each lowercase vowels (a, e. i, o, and u) appear in the entire

\* string. Have a separate counter for each vowel. Also count and print the

\* number of nonvowel characters

\*

\*

\*/

public class Question4 {

public static void main(String[] args) {

// TODO Auto-generated method stub

Scanner sc = new Scanner(System.in);

System.out.print("Enter a sentence: ");

String line = sc.nextLine();

int aCount = 0;

int eCount = 0;

int iCount = 0;

int oCount = 0;

int uCount = 0;

for (int i = 0; i < line.length(); i++) {

switch (line.charAt(i)) {

case 'a':

aCount++;

break;

case 'e':

eCount++;

break;

case 'i':

iCount++;

break;

case 'o':

oCount++;

break;

case 'u':

uCount++;

break;

default:

break;

}

}

System.out.println("Total we have " + (aCount + eCount + iCount + oCount + uCount) + " lowercase vowels character");

System.out.println("a: " + aCount);

System.out.println("e: " + eCount);

System.out.println("i: " + iCount);

System.out.println("o: " + oCount);

System.out.println("u: " + uCount);

}

}

**Question 5**

import java.util.Scanner;

/\*\*

\* Write a program that reads an arbitrary number of integers that are in the

\* range 0 to 50 inclusive and counts how many occurrences of each are entered.

\* Indicate the end of the input by a value outside of the range. After all

\* input has been processed., print all of the values (with the number of

\* occurrences) that were entered one or more time.

\*

\*

\*/

public class Question5 {

public static void main(String[] args) {

// TODO Auto-generated method stub

int[] database = new int[51];

Scanner sc = new Scanner(System.in);

while(true) {

System.out.print("Enter a number (0 to 50): " );

int num = sc.nextInt();

if(num < 0 || num > 50)

break;

// Store to databse

database[num]++;

}

// Print the database

for(int i = 0; i < 51; i ++) {

if(database[i] > 0) {

System.out.println("" + i + ": " + database[i]);

}

}

}

}

**Question 6**

/\*\*

\* Write a program that computes and prints the mean and standard deviation of a

\* list of integers x1 through xn. Assume that there will be no more that 50

\* input values and the maximal possible value is 100. Compute both the mean and

\* standard deviation as floating point values, using the following formulas

\*

\*

\*/

public class Question6 {

public static void main(String[] args) {

}

}

//\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

// Statistics.java

//\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

public class Statistics {

public static double mean(int[] numbers, int count) {

//your code here.

int sum = 0;

for(int i = 0; i < count; i++) {

sum += numbers[i];

}

return (double)sum/count;

}

public static double standardDeviation(int[] numbers, int count) {

//your code here.

double sum = 0;

double m = mean(numbers, count);

for(int i = 0; i < count; i++) {

sum += ((double)numbers[i] - m) \* ((double)numbers[i] - m);

}

return Math.sqrt(sum / count);

}

}

//\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

// StatisticsDriver.java

//\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

import java.util.Random;

public class StatisticsDriver {

private static final int MAX\_COUNT = 50, MAX\_VALUE = 100;

//-----------------------------------------------------------------

// Demonstrates the mean and standard deviation methods.

//-----------------------------------------------------------------

public static void main(String args[]) {

//your code here.

int[] numbers = new int[MAX\_COUNT];

Random random = new Random();

for(int i = 0; i < MAX\_COUNT; i++) {

numbers[i] = random.nextInt(MAX\_VALUE);

}

System.out.println("MEAN: " + Statistics.mean(numbers, MAX\_COUNT));

System.out.println("Standard Deviation: " + Statistics.standardDeviation(numbers, MAX\_COUNT));

}

}