Practise 4

Problem1:

ComputeMethods.java and define the following three methods:  
public double fToC(double degreesF)  
public double hypotenuse(int a, int b)  
public int roll()

import java.util.Random;

public class ComputeMethods {

// Method to convert Fahrenheit to Celsius

public double fToC(double degreesF) {

return (degreesF - 32) \* 5 / 9;

}

// Method to calculate the hypotenuse of a right triangle

public double hypotenuse(int a, int b) {

return Math.sqrt((a \* a) + (b \* b));

}

// Method to simulate rolling two dice and returning their sum

public int roll() {

Random rand = new Random();

int die1 = rand.nextInt(6) + 1; // Roll first die (1 to 6)

int die2 = rand.nextInt(6) + 1; // Roll second die (1 to 6)

return die1 + die2;

}

}

Write a second java file, TestClass.java and perform the following:  
Add a main method, in the main method:  
Create an instance of ComputeMethods and invoke the methods defined in ComputeMethods.java on this instance and  
display their results

public class TestClass {

public static void main(String[] args) {

// Create an instance of ComputeMethods

ComputeMethods cm = new ComputeMethods();

// Convert 100 degrees Fahrenheit to Celsius

double tempC = cm.fToC(100);

System.out.println("Temp in celsius is " + tempC);

// Calculate the hypotenuse of a triangle with sides 6 and 8

double hypotenuse = cm.hypotenuse(6, 8);

System.out.println("Hypotenuse is " + hypotenuse);

// Roll two dice and get the sum

int diceSum = cm.roll();

System.out.println("The sum of the dice values is " + diceSum);

}

}

Problem 2:

it reads the user's first and last name (read an entire line as a single string), then prints the last name followed by a comma and the first  
initial. (Assume that the user types a valid name.)

import java.util.Scanner;

public class NameFormatter {

public static void main(String[] args) {

// Create a Scanner object to read input

Scanner scanner = new Scanner(System.in);

// Prompt the user to enter their full name

System.out.print("Type your name: ");

String fullName = scanner.nextLine();

// Find the index of the space character to split first and last name

int spaceIndex = fullName.indexOf(' ');

// Extract the first and last name

String firstName = fullName.substring(0, spaceIndex);

String lastName = fullName.substring(spaceIndex + 1);

// Format the output as "LastName, F."

String formattedName = lastName + ", " + firstName.charAt(0) + ".";

// Display the formatted name

System.out.println("Your name is: " + formattedName);

}

}