CS1301 Lab Exercise — Number Calculations

8/18/2016

Fares

This problem is intended to be solved in a closed-lab session with a teaching assistant or instructor present. The problem is divided into six parts:

**1.** Lab Objectives

**2.** Description of the Problem

**3.** Sample Output

**4.** Program Template

**5.** Problem-Solving Tips

**6.** Follow-Up Question and Activity

The program template represents a complete working Java program, with one or more key lines of code replaced with comments. Read the problem description and examine the sample output; then study the template code. Using the problem-solving tips as a guide, replace the /\* \*/ comments with Java code. Compile and execute the program. Compare your output with the sample output provided. Then answer the follow-up question.

**Lab Objectives**

This lab was designed to introduce the basic programming concepts from Chapter2. In this lab, you will practice:

• Using the Scanner class to obtain input from the user.

• Using print, println, and printf to output information to the user.

• Using arithmetic operators to perform calculations.

**Description of the Problem**

Write an application that inputs two integers from the user and displays the sum, difference, average, product, and remainder. [*Note:* The calculation of the average in this exercise should result in an integer representation of the average. So if the sum of the values is 7, the average should be 2, not 2.3333….]

**Sample Output**

Ï  
Enter first integer value: 5  
Enter second integer value: 2

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*Output Report \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*  
 Name John Smith   
 Course CS 1301 A   
 Date 8/18/2016   
 \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*  
  
 Number1 5  
 Number2 2  
  
 Sum 7  
 Different 3  
 Product 10  
 Division 2.50  
 Exponent 25.00  
 Remainder 1

Average 3.50  
 \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*  
**Program Template**

//\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*  
//Purpose: Practice with basic arithmetic operations  
//  
//Input: Reading two integers from keyboard  
//Output: Display input values and their sum, difference,  
// average, product, and remainder.  
//  
//Author: <Enter your name>  
//Course: CS1301 (enter your section)  
//Date: <Enter current date?  
//Program: Calculate1.java  
//\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*  
import java.util.Scanner;  
public class Calculate{  
 public static void main( String args[] ){  
 //Declarations  
 Scanner input = new Scanner( System.in );  
 int number1; // first number  
 int number2; // second number  
 int sum; // sum of number1 and number2  
 int difference; // number1 minus number2   
 int product; // product of number1 and number2  
 double division; // division of numbers by number2  
 double exponent; // number1 raised to number2  
 int remainder; // remainder of number1 and number2  
 double average; // average of numbers  
  
 //Reading input data  
 //1. write a series of statements to read in two integer values  
 // and assign them and assign them to number1 and number2  
  
 //Calculations  
 //2. Compute the sum of number1 and number2 and save result  
 // in variable sum Perform other calculations and save   
 // results in the appropriate variables  
   
   
 //3. Display your output as specified in handout.  
  
 } // end main  
} // end class Calculate

**FlowwUp**

Modify the program to do the following:

1. Number1 and number2 should be double instead of integer
2. Ask your to enter name and course name
3. Get date from the system (import the Date class)