

CS1050 – Lab 2

Fall 2021

Concepts to Practice

- Simple input/output
- Integer variables
- Arithmetic operators
- Extend Prelab 2

Submission Information

Submit this assignment by following the instructions given by your TA. SUBMIT ONLY the .c file (no a.out or executable file is required). All of the lab assignments must be submitted before the end of the lab using the lab code given by the TA.

Use the following submit command:

```
mucs submit <class> <assignment_name> <filename>
```

For example:

```
mucs submit 1050 lab2 lab2.c
```

Description

For the lab assignment, write a C program that reads in four integer numbers from user input that will be entered on the same line and separated by a space. The first integer should be called A, the second B, the third C, and the fourth D.

Print the following:

- Print the values of A, B, C, and D.
- Print the value of the sum of A and D.
- Print the value of the product of B and C.
- Print the value of the integer quotient of C divided by A.
- Print the value of the integer remainder of D divided by C.
- Print the value of the quantity A times B divided by (integer division) the quantity C plus D.

Honors Extension

No need to do this part if you are not in the honors section. If you are in the honors section of the course, please also print the following:

- Print the exact quotient of each of the 4 values (A, B, C, and D) divided by 2. You may only use integer variables. We have not talked about “cast” and you don’t need to use it (but if you do, I won’t hold it against you – it is just cooler if you don’t).

Hint 1: If something is divisible by 2, there is nothing after the integer quotient. If something is not divisible by 2, there are always 2 specific characters printed after the integer quotient.

Hint 2: If you don’t print a newline (“\n”) with printf(), the next thing you print will be on the same line where you left off.

Sample Output 1

Enter 4 integers (A,B,C,D) separated by spaces: 1 2 3 4

*** Initial values ***

A=1

B=2

C=3

D=4

*** Calculated values ***

The sum of A and D = 5

The product of B and C = 6

The integer quotient of C divided by A = 3

The integer remainder of D divided by C = 1

The product of A and B divided by the quantity sum of C and D = 0

*Honors:

A/2=0.5

B/2=1

C/2=1.5

D/2=2.5

Sample Output 2

Enter 4 integers (A,B,C,D) separated by spaces: 19 7 52 4

*** Initial values ***

A=19

B=7

C=52

D=4

*** Calculated values ***

The sum of A and D = 23

The product of B and C = 364

The integer quotient of C divided by A = 2

The integer remainder of D divided by C = 4

The product of A and B divided by the quantity sum of C and D = 2

*Honors:

A/2=9.5

B/2=3.5

C/2=26

D/2=2.5

Guidelines for Grading Lab 2

40 Points Possible

General

If your program does not compile or produce any input/output then your lab will receive a grade of **zero points**. Your program must calculate output (not “hard-code” values and print them) for you to receive any credit at all. Your program is expected to have a comment header at the top that includes your name, pawprint, the course you are taking, and the lab that you are solved (e.g., “Lab 6”). Your code should be nicely indented.

Here is an example of my header:

```
/* **** */
* Course:      CS 1050
* Semester:    Fall 2021
* Date:        August 21, 2021
* Lab:         Lab 2
* Author:      Jim Ries
* Pawprint:    jer676
/* **** */
```

Non-Honors

5 points: Header, comments, and general coding style.

5 points: Reading the four inputs correctly from the user using scanf.

5 points: Printing all the initial values correctly.

25 points: Performing each of the arithmetic operations correctly (5 calculated values * 5 points for each).

Honors

5 points: Header, comments, and general coding style.

5 points: Reading the four inputs correctly from the user using scanf.

5 points: Printing all the initial values correctly.

20 points: Performing each of the arithmetic operations correctly (5 calculated values * 4 points for each).

5 points: Properly showing the exact quotient of each of the 4 values divided by 2, using only integer variables.