Lab #0: Trial Lab

Lab #0: Trial Lab (CS1010 AY2011/2 Semester 1)

Date of release: 21 August 2011, Sunday, 7:00hr.

Submission deadline: 26 August 2011, Friday, during your discussion session.

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0 Introduction

This is a non-graded lab. However, you need to submit your program on **CodeCrunch** in the presence of your discussion leader (DL) during this week's discussion session, to show that you know how to do it.

This lab requires you to do only 1 exercise.

If you have any questions on any lab exercise, please may post your queries **on the relevant IVLE discussion forum**. Important: Do **not** post your programs (partial or complete) in the forum before the deadline!

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1 Exercise 1: Volume of a Box

1.1 Learning objectives

- Using CodeCrunch.
- Run through edit-compile-run cycle of program development.
- Using the UNIX environment.
- Detection and correction of errors in a program.

1.2 Task statement

Write a program **`box_volume.c`** that reads three positive integers representing the length, width and height of a box, and computes the volume of the box.

You may assume that the volume of the box does not exceed the maximum value representable in the `int` data type. (What is that value? See 1.5 Exploration below.)

Check sample run for input and output format, and submit your program through CodeCrunch.

1.3 Sample run

Sample run using interactive input (user's input shown in blue; output shown in **bold purple**). Note that the first two lines (in green) below) are commands issued to compile and run your program on UNIX.

```
$ gcc -Wall box_volume.c -o box_volume.exe
$ box_volume.exe
Enter length: 12
Enter width : 3
Enter height: 10
Volume = 360
```

1.4 Important notes

- You may download a skeleton program `box_volume.c` from the next section (section 1.5). The skeleton file is almost complete and you just need to correct a few statements in the program.

- CodeCrunch awards marks for correctness ONLY if your output adheres to the given format. Hence, do not add any other characters (such as blanks that are not asked for in your output, or change the spelling in your output. The following outputs will all be graded as **incorrect** for this exercise:

    - `volume = 360` (reason: "Volume" mis-spelt as "volume")
    - `Volume=360` (reason: spaces around = sign missing)
    - `Volume = 360` (reason: additional spaces before "Volume")
    - `Volume = 360` (reason: too many spaces around = sign)
    - `Volume = 360.` (reason: additional dot at end of line)

- The last output statement in your program must end with a new line character '\n'. Otherwise, it is possible that your program may fail the correctness test of CodeCrunch.

1.5 Skeleton file and sample test data

- box_volume.c
- box1.in
- box1.out

1.6 Number of submissions

For this exercise, the number of submissions is **99**.

1.7 Exploration

What is the largest value available for `int` data type? Search the Internet for the answer, and write a separate program (no need to submit this) to test it out.

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2 Deadline

No deadline, but you must submit the program on CodeCrunch in the presence of your DL during your first discussion session.

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3 Reading

Read up Lab Guidelines to prepare yourself for subsequent lab assignments.

Go back to CS1010 Labs page.

Aaron Tan
Wednesday, August 3, 2011 02:45:03 PM SGT