Assignment 2: Simple Arithmetic & Input/Output

Objective

In this assignment, we will use the input and output library and do some basic integer arithmetic.

Due

Before 11:59 p.m., Tuesday, 5 October

Tasks

You work for a flooring company and you are developing a handheld device to provide instant price quotes for potential jobs. The device takes in the floor dimensions and then provides the total cost for the job, as well as the number of workers required to complete the work.

When the device is calculating the price for a new job, the technician enters the length and width of the floor in feet (as integer values). The total price and number of workers are calculated thus:

- Calculate the total area of the floor
- The flooring cost is $3 per square foot
- Calculate the number of workers required, by performing integer division. You need two workers for every 100 square feet (for this first program, you can safely assume that every job will be at least 100 square feet).
- After the total cost of the floor is calculated, add a surcharge of $35 for each worker required to complete the job.

Note Well: All data is input as integer values and all operations are integer operations. **The input and resulting output must follow the formatting in the example given below** Example input/output is shown, with values of 10 and 20, (output is in blue and input is in red):

```
Please enter floor length:  10
Please enter floor width:  20
Job size (sq ft):  200
Workers:  4
Total Cost:  $740
```

Here is a second example, with a floor size of 35 feet by 76 feet:

```
Please enter floor length:  35
Please enter floor width:  76
Job size (sq ft):  2660
Workers:  52
Total Cost:  $9800
```

Follow the conventions used in the example programs to set up your program (i.e., use the skel.asm file to get your assembly sections set up correctly. Put your code in the `asm_main` text section. You will want to use the `driver.c` and `cdecl.h` code when you compile, in order to set up the memory picture correctly. For this assignment, you must use the `asm_io` library thus, will also need `asm_io.inc` and `asm_io.o` in the same directory.

What to submit:

You must submit you assignment two ways:

1. Submit just the source code (the `.asm` file) electronically to the D2L dropbox

2. Print out your source code, nicely formatted, and staple the cover sheet from the last page of this lab handout on top of your source code. Initial the check blocks and print your name/sign the sheet. Bring this with you to the next class that follows the due date.

3. Be sure to include your name in the top of you program file in the comment block!

Assignment 2: Simple Arithmetic & Input/Output

Remove this sheet from the handout and staple it to the top of your printout. Place your initials in the check boxes at the top (indicating that you have done the described requirement). Print your name and sign, where indicated. If you have any additional comments/notes about your assignment, you may provide those where indicated. The bottom table is for the instructor's grading.

Statement: "I certify that the submitted program is the result of my own efforts, and that I have not shared any source code with others. Further, my program assembles correctly and has been tested for correctness."

Checkbox	**Description**
	This program is a result of my own efforts, I shared code with no one, nor did I receive help from others (or the internet)
	The program assembles and compiles correctly
	I have tested the program, and it runs correctly with my test input
	I have stapled my source code printout to this checklist, and will hand this in at the next class

Notes:

Student Signature: ______________________________

Printed Name: ______________________________

This table is where Dr. Jochen will record your scores for grading:

Earned Points	**Description**
	Program printout is neat and readable, code style promotes understanding (1 point)
	Assembles/Links correctly (2 points)
	Program uses correct algorithm & libraries (2 points)
	Runs correctly, produces correct output (5 points)
	Penalty points: Lateness, failure to submit printout / completed checklist, not stapled
	Total points (10)