EE231002 Introduction to Programming

Lab01. Unit Conversion

Due: Sep. 22, 2014

The standard unit of measurement in Taiwan is the metric system, in which the length is measured in centimeters, meters and kilometers. In Britain, the Imperial units are adopted while in the United States the customary units are more popular. In both countries, the length is mostly expressed in inches, foot, and miles. In this lab, you will write a program convert a length measured in meters to feet and inches. It has been defined by the US government that 1 inch equals to 2.54 centimeters, and 1 foot is 12 inches.

Your program should read in an **integer** that represents a length expressed in meters, and then convert it to US customary units of feet and inches. Typical program inputs and outputs are shown below.

```
$ ./a.out
Input length in meters: 3952
Length in US customary units: 12965 feet 10 inches
$ ./a.out
Input length in meters: 8848
Length in US customary units: 29028 feet 10 inches
```

Notes.

1. Create a directory **lab01** and use it as the working directory.
2. Name your program source file as **lab01.c**.
3. The first few lines of your program should be comments as the following.

   ```
   /* EE231002 Lab01 Unit Conversion
      ID, Name
      Date:
   */
   ```

4. After finishing editing your source file, you can execute the following command to compile it,

   ```
   $ gcc lab01.c
   ```

   If no compilation errors, the executable file, **a.out**, should be generated, and you can execute it by typing

   ```
   $ ./a.out
   ```

5. Typical inputs and outputs of the program execution have been shown above. But you should try a few more test cases to make sure your program function correctly.

6. After you finish verifying your program, you can submit your source code by

   ```
   $ ~ee231002/bin/submit lab01 lab01.c
   ```

   If you see a "submitted successfully" message, then you are done. In case you want to check which file and at what time you submitted your labs, you can type in the following command:

   ```
   $ ~ee231002/bin/subrec
   ```

   It will show the last few submission records.