Introduction to Java (CS2514): Assignment 1

Distance Conversion (*Due: February 11th. Marks: 5*)

Assignment 1: Distance Conversion (*5 Marks*)

For this assignment you will implement a `Distance` class. Each instance of the class should represent a distance.

The following are the details of the assignment.

- There should be a (single) constructor. The constructor takes in a distance in metres and stores the distance using a single attribute, which should have a proper name.
- There should be three instance methods for getting the instance's distance: one for getting the distance in metres, one for getting the distance in inches, one for getting the distance in feet.
- There should be three instance methods for printing the distance: one for printing it in metres, one for printing it in inches, and one for printing it in feet.
  - See `http://lmgtfy.com/?q=meter+to+inch+conversion` for information on how to convert from metres to inches.
  - See `http://lmgtfy.com/?q=meter+to+feet+conversion` for information on how to convert from metres to feet.
- Implement a `main( )` that constructs an instance of the class and uses the instance to print its distance in metres, in inches, and in feet.
- The main doesn't have to read in the distance of the instance. You may assume the distance is a constant. (Of course you should test for different distances.)
- Please remember to use good object oriented and software engineering standards.

  Please re-read the previous sentence because implementing a class that satisfies the requirements is not the only *objective: the class should have a good, maintainable design.*

Submission Details

- Before you submit this assignment, please read the remainder of this section.
- Please use proper JavaDoc, which should include a JavaDoc comment for the class and JavaDoc comments for the public instance methods. You should use the @author tag in the class JavaDoc for your name and ID:

```
/**
 * One-line comment that describes the class.
 * More comments if needed.
 *
 * @author: YOUR NAME (YOUR ID)
 */
```

- Use the CS2514 moodle site to upload your program as a single *.tgz* archive called *Lab-1.tgz* before 23.55pm, February 11th, 2018. To create the *.tgz* archive, do the following:
  - Create a directory Lab-1 in your working directory.
  - Copy Distance.java into the directory. Do not copy any other files into the directory.
  - Run the command 'tar cvfz Lab-1.tgz Lab-1' from your working directory. The option 'v' makes tar very chatty: it should tell you exactly what is going into the .tgz archive. Make sure you check the tar output before submitting your archive.
  - Notice that file names in Unix are case sensitive and should not contain spaces.
- Notice that the format is .tgz: please do *not* submit zip files, do *not* submit gzip files, do *not* submit tar files, do *not* submit bzip files, and do *not* submit rar files. If you do, it may not be possible to unzip your assignment.
- Marks are deducted for poor choice of variable names and/or poor layout.
- No marks shall be awarded for programs that do not compile.