

Introduction to Java (CS2514): Assignment 1

Temperature Conversion (Due: 12 February. Marks: 5)

Assignment 1: Temperature Conversion (5 Marks)

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

The following are the details of the assignment.

- There should be a (single) constructor. The constructor takes in a temperature in Kelvin and stores the temperature using a single attribute, which should have a proper name.
- There should be three instance methods to print the temperature: one for printing in Kelvin, one for printing in degrees Centigrade, and one for printing in degrees Fahrenheit.
 - ★ See <http://www.metric-conversions.org/temperature/kelvin-to-celsius.htm> for information on how to convert from Kelvin to Centigrade.
 - ★ See <http://www.metric-conversions.org/temperature/kelvin-to-fahrenheit.htm> for information on how to convert from Kelvin to Fahrenheit.
- Implement a `main()` that constructs an instance of the class and uses the instance to print its temperature in Kelvin, in Centigrade, and in Fahrenheit.
- The main doesn't have to read in the temperature of the instance. You may assume a constant temperature. (Of course you should test for different temperatures.)
- 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. You should use the `@author` tag for your name and ID:

```
/**
 * One-line comment that describes the class.
 * More comments if needed.
 *
 * @author: <your name> (<your id>)
 */
```

Java

- Use the CS2514 moodle site to upload your program as a single *.tgz* archive called *Lab-1.tgz* before 23.55pm, 12 February, 2017. To create the *.tgz* archive, do the following:
 - ★ Create a directory *Lab-1* in your working directory.
 - ★ Copy *Temperature.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*: 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.