Assignment 1

CS2336.504

Let's see how well you remember object-oriented programming and classes, things you will need for this assignment. Remember that in Java, you don't need header files, and if a class is in the same package as another class, they can "see" each other. Here is what your program will do.

In the main method you'll need a menu that has the following seven choices:

1. Convert Fahrenheit to Celsius
2. Convert Celsius to Fahrenheit
3. Convert pounds to kilograms
4. Convert kilograms to pounds
5. Convert miles to kilometers
6. Convert kilometers to miles
7. Exit the program.

In the main method, when one of the menu options except 7 is chosen, request a number to be converted. Note that you cannot convert negative length or weight, but negative temperatures convert just fine. Call a method to convert the number and return a result Display the result. You can use the static method *format* of the String class to print the result with two decimal places. You can also use the DecimalFormat class. Test your program with data for which you can easily calculate the desired result.

If the user enters any menu option other than 1 through 7, print a message saying "Invalid option" and return to ask again.

To write this, besides your main class (Called CS2336Asg1) you'll need three additional classes: Temperature, Weight, and Distance. Each of these must have two conversion methods. You must instantiate each of these classes exactly once, before you start the main loop. For example, a call to Temperature.fahrenheitToCelsius(32); would return 0. In Java, a class, unless it is an inner class, must be in a file with the name of the class. Do not use inner classes. Do not write static methods except main. Recall that in our example we had class CS2336Demo in a file called CS2336Demo.java.

Your conversion classes must not request input nor print anything. Their methods take a parameter (a double) and return a double result. The classes must be in separate files with the names given.

To hand in: Your four .java files: the main class and the three conversion classes. Nothing else. You can use your favorite IDE to write this, of course.

Grading Criteria	
Comments and variable names	10
All functions work correctly (10 points per function)	60
Program is structured well according to object-oriented principles	30
Total	100