CSCI 2300, Spring 2019

Homework 2 [50 points]

Overview

In this homework, you will use the concepts we learned in class to reinforce your understanding of:

- How to use Inheritance and Interfaces to avoid code duplication and to design flex
- How to write to a file
- How to handle exceptions in Java
- Integrating your design with existing code

Description

For this assignment, you will be implementing a conversion calculator to convert:

- Pounds to kilograms
- Fahrenheit to Celsius
- Inches to centimeters

I provided the "driver" code in the hw2 directory of your git repositories. Do no change this driver. Your task is to design and implement classes necessary to make this driver work. Your solution should avoid code duplication by taking advantage of inheritance and interfaces features of Java.

There are two ways to run this driver:

- java Driver
- java Driver <OUTPUT_FILE_NAME>

In the first case, the output of the conversion will be printed to the terminal. In the second case, the output of the conversion will be appended to the output file specified as a command line argument.

An example output is:

10.0 pounds = 4.535970244035199 kilograms

Additionally, your code should handle all checked exceptions that may be thrown by the Java classes you will be using.

Grading

Your grade will be determined based on the following criteria:

[10 points] Does your code avoid code duplication?

[10 points] Does your code handle all checked exceptions that are thrown by other methods?

[5 points] Does your code successfully write conversion output to the terminal?

[5 points] Does your code successfully append conversion output to a file?

[10 points] Does your code support the three required conversions?

[5 points] Did you leave the driver unmodified?

[5 points] Does your code adhere to CSCI 2300 coding standards?