Delta College

CST 183
Programming Assignment 1

Fall 2019
Instructor: T. Klingler

Objective

To build a complete working Java program to apply basic data types, arithmetic operations, and dialog-based input/output.

Overview & Instructions

In the world of Harry Potter, a pub owner needs to replenish their stocks of ale and must work with muggles to make the deal. The negotiations conclude and a price for a number of *hogheads* of ale is agreed upon for a given price in U.S. dollars.

Your program should summarize the transaction. Input should include:

- Number of hogsheads of ale (integer)
- Dollar amount agreed upon per hogshead (decimal)

Output for the program should be a summary of various totals in different units (both muggle and wizarding). Here is a the expected output:

```
Amount: xx hogsheads, xxx.x gallons
Cost: xxxx.xx U.S. Dollars
      xxxx.xx Euros
      xxxx.xx British Pounds
      xx galleons, xx sickles, xx knuts
```

Your general formatting can vary but be sure to include all of the demonstrated values. Format gallons to one decimal place, monetary amounts to two decimal places, and be sure that the hogsheads and wizarding money values are integers.

Required facts include the following:

The monetary exchange rate between the wizarding and muggle worlds is:

- There are 54 U.S. gallons in one *hogshead*
- 1 Galleon = $25.50
- 1 Dollar = 0.86 Euros = 0.76 Pounds
- 1 Galleon = 17 Sickles
- 1 Sickle = 29 Knuts

Include exclusive use of dialog-based input and output for this solution. You are free of course to integrate use of the Java console for testing, but be sure the final solution utilizes dialog boxes. Design your input dialogs to include clear instructions and make sure your output dialog is organized, understandable, and includes proper units.

Be sure to consider documentation, code structure, neatness, and clarity in your final solution.

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Deliverables

Deliver the following to the online course management system **dropbox** as your final product:

- **Upload** your **source code** (.java) file

Notice

This is an individual assignment. You must complete this assignment on your own. You may not discuss your work in detail with anyone except the instructor. You may not acquire, from any source (e.g., another student or an internet site), a partial or complete solution to a problem or project that has been assigned. You may not show another student your solution to an assignment. You may not have another person (current student, former student, tutor, friend, anyone) "walk you through" how to solve the assignment.