Evaluation Guidelines

You will be evaluated on how you reach the solution, keeping in mind that the correctness of the solution will also be taken into consideration.

Your focus should be on these elements of code quality: **clean code, object-oriented programming, design patterns, unit testing, and simple expandable design**.

You may use frameworks and/or tools that are in general usage for the target technology stack. However, the central problem of the coding exercise (the calculation of sales tax) should be performed entirely by your own code.

Please note that, according to the information collected from the candidates, they usually spend between 4 to 12 hours on this coding exercise.

If you are writing a test in .NET/ C#
- The code must be written using Visual Studio. Visual Studio Express is available free on the Internet.

- Once the code is written send me the source code only and not the executable or libraries (. Exe or .dll).

Or in Java

- The code must be written using either Eclipse or NetBeans as 2 free IDE available on the internet.

- Once the code is written, the source code must be submitted without its byte code; please remove any files archiving byte code (jar, war, "*.class" and the bin/target directory).

Or in C++
- Technologies such as COM, multi-threading, networking, etc. should be showcased in the solution.

- The project should be written using unmanaged C++ code (don't use .NET managed libraries) in an application that can be run from the console.

Or in PHP
- The source code must be submitted as plain text in .PHP file.

Problem: Sales Taxes

Basic sales tax is applicable at a rate of 10% on all goods, except books, food, and medical products that are exempt. Import duty is an additional sales tax applicable on all imported goods at a rate of 5%, with no exemptions.

When I purchase items I receive a receipt which lists the name of all the items and their price (including tax), finishing with the total cost of the items, and the total amounts of sales taxes paid. The rounding rules for sales tax are that for a tax rate of n%, a shelf price of p contains (np/100 rounded up to the nearest 0.05) amount of sales tax.

Write an application that prints out the receipt details for these shopping baskets...

INPUT:

Input 1:
1 book at 12.49
1 music CD at 14.99
1 chocolate bar at 0.85

 Input 2:
1 imported box of chocolates at 10.00
1 imported bottle of perfume at 47.50

Input 3:
1 imported bottle of perfume at 27.99
1 bottle of perfume at 18.99
1 packet of headache pills at 9.75
1 box of imported chocolates at 11.25

OUTPUT

Output 1:
1 book : 12.49
1 music CD: 16.49
1 chocolate bar: 0.85
Sales Taxes: 1.50
Total: 29.83

Output 2:
1 imported box of chocolates: 10.50
1 imported bottle of perfume: 54.65

Sales Taxes: 7.65
Total: 65.15

Output 3:
1 imported bottle of perfume: 32.19
1 bottle of perfume: 20.89
1 packet of headache pills: 9.75
1 imported box of chocolates: 11.85
Sales Taxes: 6.70 Total: 74.68