ORACLE

Coding Exercise – Vending Machine

Oracle Analytics Bristol

Hi,
Please complete the following:

You work for a firm which produces vending machines, currently for the UK market, and you are responsible for a new software component that tracks change (as in coins) within the vending machines.

This component needs to provide APIs which:

- Initialise the vending machine to a known state, for use when the machine is set up. This should include setting the initial float (the coins placed in the machine for customer change) which should be accepted as a parameter.
- Register coins that have been deposited by a user.
- Produce a collection of coins that sum to a particular value (accepted as a parameter) from the coins available in the machine (for the purpose of returning change to the user) and remove the coins from the machine.

The tasks needed right now are:

1. Design an API which satisfies the above requirements. Justify any design decisions you have made in an accompanying README file.
2. Write an implementation of the API, aiming for production-quality code.
3. Write an interactive test-harness that we can use to play with your code.

You may complete the following task in a language of your choice. However, we would like to be able to run your software to test it.

The development kit for your language should be easily installable on a fresh Linux (preferred), Mac or Windows machine, ideally via the standard package manager, but otherwise by downloading from some well-known and reputable website.

Though unrealistic, for the purpose of the exercise, you can assume that the vending machine software will run continuously, i.e. there is no need to persist any data beyond storing it in memory.

Provide some notes on how we can build and run your code, in the README.

Vague requirements are a feature of the real world. If you find any ambiguity in this document, try to resolve it in a sensible way. Feel free to note any such decisions and their justification in the README if necessary. If this is not possible, send an e-mail asking for clarification.

Please send us your program via your Oracle contact and include instructions that tell us how to compile and run it. We'll check the accuracy of the output, and also assess the program for style and readability. Please get it to us on the day specified at the latest.

Thank you,
Oracle.