

# Project 1 Reflection

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## Summary

This program enables the user to order multiple products within one order from a coffee shop. The customers can choose various types of coffee, size and flavor. Bakery is also offered. And there are three payment options including using points to redeem. What's more, the program enables the user to quit anytime except the payment step if the order is complete and have opportunities to reenter the choice if there is any input error.

To execute the program, please run below command from terminal or shell and follow the instructions on the screen.

```
>>> python CoffeeShopOrdering.py
```

The customer database has the names of python class students and the instructor Chris as existing customers and initialize their point balance by random function. You can use any student or the instructor's first name to redeem the points or you can enter any other name as a new customer. If you don't care about earning points or redeem them, then you can skip this step.

## Development Process

The article from <https://learnpythonthehardway.org> is helpful and I prefer the top-down development process. I started thinking what features or program I want to deliver and then extracted key nouns and verbs to build the classes and functions. First, I only created basic class structures and tested them. Next, I add more attributes and functions to the class and try to call them. When I called them, I ran into several issues or realized that I missed some attributes or I may not need such a class at all. Then I modified the classes accordingly.

Another useful tip is that I tested the main structure first and then worked on adding functions or other details. As I haven't finished all parts, when I tested them I used hard coded values into the class or functions without worrying about other details. In this way, I can develop it module by module. Next, I stitched them together, like function output would be class input. Finally, I improved my UI and tried to catch common user errors. Anyway, I would like to provide a simple app for the end user so that it's easy to order with my coffee shop!

## Challenges

It took me about 15-20 hours to complete the coding, longer than I expected, especially the debugging part. Below are my biggest challenges during the process and some notes.

1. I'm not sure which attributes or functions should be included in the class or how to pass the parameters to the class or how to define/initialize the attributes.

- a. I learnt from examples in the class material and tested different combinations myself. I found something working even though I didn't quite understand it at that time. But the more I coded and fixed the bugs, the more I understand the class and functions.
  - b. I should pay more attentions to the naming as the class is not callable when there is naming conflict.
- 2. I want to catch common user errors and still enable the user to reenter valid input to complete the order. Thus, if-raise Exception and try-Exception don't work. And it took me a while to even understand the differences between the two. In the end, I used while loop with break/continue. But I'm not sure whether this is the efficient way as there are multiple lays of such loops which are only added for the user errors.