Assignment 2

Overview

You are required to design and develop a small console application in Java Programming Language. Completion of this assignment requires an understanding of:

- Analysis and design techniques, including the development of Entity Relationship Diagram and Data Flow Diagram of the system.
- Object-oriented programming, focusing on basic of programming along with polymorphism and the use of interfaces

Timelines and Expectations

Percentage Value of Task : 30%
Due : Tue, Aug 18, 2020 - 23:55
Minimum time expectation : 24 hours
Assignment Type : Individual

Learning Outcomes Assessed

The following course learning outcomes are assessed by completing this assignment:

- Understand the flow of programming including sequential, conditional and loop.
- Understand the importance of functions or methods in a program
- Understand the concept of variable, class, objects, polymorphism and interface.
- Demonstrate skills in research and implementing solutions of research to accomplish task

Assessment Details

Ramesh, the owner of Everest Veg Restaurant, is opening a takeaway shop for chow mein and momo. He wants to offer some packages to the interested customers to promote his business. To do so, he is offering the following packages:

For Chow mein

1 plate Chow mein	Rs. 120
2 plates Chow mein	Rs. 115 each
N plates Chow mein (For N >= 3)	N* Rs.110 and the customer will receive 1 plate Samosa for every three plates Chow mein **[For example, if a customer is interested to buy 10 plates Chow mein, Ramesh will provide 3 plates complimentary Samosa for Rs. 1100]**

For momo	
1 plate momo	Rs. 110
2 plates momo	Rs. 105 each
N plates momo (For N >= 3)	N* Rs.100 and the customer will receive 1 plate Jeri for every three plates momo **[For example, if a customer is interested to buy 10 plates momo, Ramesh will provide 3 plates Complimentary Jeri for Rs. 1000]**

Special Offer

For every 3 plates chow mein and 3 plates momo, Ramesh will give a small box of PEDA in addition to a plate of samosa and a plate of Jeri.

You have agreed to design and develop a small console program for Ramesh, enabling him to select the appropriate item and the package, and calculate the corresponding cost. Once an order is processed, the program will return to the menu and ready to commence another order. This payment information should display:

- total payment amounts received for chow mein order
- total payment amounts received for momo order
- total amount of chow mein and momo sold in that session*

*A session indicates the duration Ana is using the program after opening it. There is no need for this data to persist once the program has stopped running.

Ramesh wants the system to be flexible so that he can include additional items and packages at a later date without having to rewrite the entire program. This means you will

need to use an interface for processing payments, and polymorphism for the various food item classes, so that the new and different packages may be added at a later date with minimal updates to the code. He asked that you provide him with some documentation before you commence coding so that he is able to verify that the program you intend to code will address his requirements. He would like to see the ERD diagram and Data Flow Diagram of the System to verify that the system meets his requirements.

Submission

You are required to submit the assignment before the due date consisting of:
A zip file containing the following:

- A PDF file with a written report including ERD and DFD along with the short reflection (approximately 200-300 words) of what you have learned.

- Your finished program in Java Programming language, addressing the requirements outlined on the Assignment Details.

Note: Please send the zip file on email (dilip@oxfordcollege.edu.np)

Marking Criteria

Task	Available Marks
1. Requirement Analysis (ERD and DFD diagram)	**10**
2. Development of Code A complete Java program addressing the requirement outlined in the Assignment details above. 1. Functionality - 20 2. Comments - 2 3. Moral rule of programming (variable, class, object and function naming) and structure - 3	**25**
3. Reflection on learning Report	**5**