

COMP1030 Programming Fundamentals

Final Exam - Practice Test

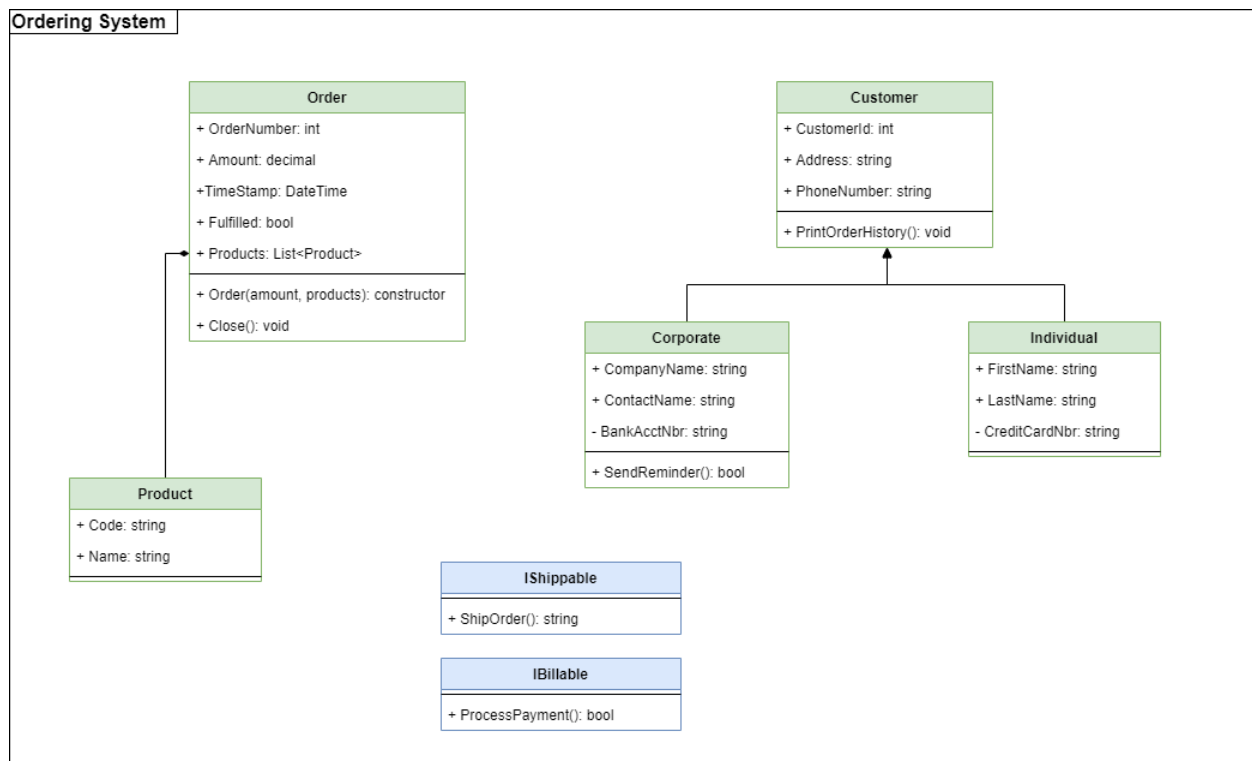
Instructions

For this exam, you will create a C# console application by following the steps below.

- Read and follow the instructions carefully
- Your application must run without any errors or exceptions so make sure to run the app before submitting it
- Finally, make your project folder into a zip file and upload it via Blackboard as an attachment

Class Diagram

Use this diagram for your reference:



Problem Set

C# Program (18 points)

1. (2) Create a new Console Application inside an empty folder named FinalExam-STUDENTNBR
2. (10 points) Using the Class Diagram above as a reference:
 - a. Write classes accordingly
 - b. Order class contains a field of type List<Product> to represent the products associated to an Order (composition)
 - c. Corporate and Individual both inherit from Customer (inheritance)
 - d. Make sure that no instances of Customer can be created in the system
 - e. Make sure to make CreditCardNbr a hidden field (encapsulation)
 - f. Make sure to make BankAcctNbr a hidden field (encapsulation)
3. (8 points) Write and implement the following interfaces
 - a. Create a new Interface named IShippable
 - i. Add a parameter-less method named ShipOrder which returns a string
 - ii. Use it to extend the Order class
 - iii. Implement code in Order to return a mock tracking number
 - b. Create a new Interface named IBillable
 - i. Add a parameter-less method named ProcessPayment which returns a Boolean value
 - ii. Use it to extend the Customer class
 - iii. Implement code in Customer to return a mock result of true