



**UNIVERSITY OF LAGOS**  
**DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING**  
**B.Sc. (Hon.) Computer Engineering Degree Examinations**  
**Mid Semester Test                      2021/2022 Session**  
**CPE 311: Computer Programming Language II**

**Instructions:**

- **Time Allowed: 1 Hour 30 Minutes**
- **Create a new project with the format: MatricNo\_CPE311\_QNumber and save all your source and header files into the appropriate folders.**
- **When you complete a question, zip the project folder and upload it to the server.**
- **Use only Visual Studio 2010 unless otherwise stated.**
- **Use multi-file technique.**

**QUESTION 1 [30 Marks]**

Write a complete C++ program that implements the following data structure:

- **Product** structure (character array for ProductName, float for UnitPrice and integer for Quantity, float for TotalPrice). **TotalPrice** is a product of the UnitPrice and Quantity.
- **Shop** structure (character array for ShopName and Address).
- **Customer** structure (character for CustomerName and Phonenumner).
- **Person** structure (Create an instance of **Shop** structure, **Customer** structure, and **Product** structure).

The program should have a **FillShoppingInfo** function that **ask** the user to enter all information for a Person instance. The prototype for this function is:

**void FillShoppingInfo (Person \*);**

You should have a **WriteReceipt** function that writes out the Person and TotalPrice information to a **text file**. The prototype for this function is:

**void WriteReceipt (Person);**

The output format is given below:

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Yem Yem Ltd  
University of Lagos, Akoka

Customer        Ronke Ahmed  
Phone Number   08067701544

Your Order

Product Name	UnitPrice	Quantity Ordered
Chocolate	50	5
*****		
Total Price		250
*****		

Thanks for your patronage

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