

Part A – Practical/ Programming Test

Question 1

[40 marks]

Given a C++ program named **program1c.cpp** with four classes named, `Owner`, `Car`, `CarForSale` and `CarForRent`. Based on the program, answer the following questions. Write your answer for all questions below in the attached **docx file**. Alternatively, you can write your answers on papers and take snapshots of them with your smartphone.

- a. Draw the class diagram based on the implementation done in the program.

(24 marks)

- b. Determine whether the following classes have any relationship to one another in the context of Object-Oriented Programming (OOP). If so, specify the type of relationship, otherwise, write No Relationship.
 - i. `Car` and `Owner`
 - ii. `CarForRent` and `Owner`
 - iii. `CarForSale` and `Car`

(6 marks)

- c. Determine whether the following methods can be accomplished. If so, complete the code of the method. Otherwise, explain why it is impossible. Note that the goal of each method is as the name implies.
 - i. `CarForSale::getOwnerName()`
 - ii. `CarForRent::getOwnerMobileNumber()`

(10 marks)