LAB 13

OBJECT ORIENTED PROGRAMMING

**TASK 1:**

You are required to create student registration program. A student can see subjects for a particular semester. Student can get register for a course (max 5) if his current semester is equal or greater than the required semester for the course offered and he has completed the pre requisite of the course. Once a student is registered for a particular course, his record for that course will be maintained.

**List of courses:**

**Semester :1**

Couse Code Title CreditHours Description PreReq

CS304 ITC 3 nil

CS305 PF 3 CS304

CS405 OOP 3 CS305

…. so on

Student Name: Ali Rehman

Reg-No: LBSCSF1245

Current Semester: 4

Couse Code Title Grade

CS304 ITC A

CS305 PF B+

CS405 OOP B+

Note: Student record about completed course should have reference to the Course object. Similarly

Course should have reference of the pre-requisite course only.

**Task 2:**

Create a base class **Card** with the following attributes

* Card number : private
* Owner name : protected
* Expiry date : public

Derive the following classes from **Card**, with mentioned additional attributes

• **Calling card**(public inheritance)

* Amount : private
* Company name : private
* PIN : private

• **ID card**(protected Inheritance)

* CNIC Number : private
* Age : private

• **Driving license card**(private Inheritance)

* Driving license type (heavy, light, bike) : private
* Issued in city : private

Your tasks:

1. In the derived classes, write the getters and setters of every member variable(including the derived variables). You are not allowed to make any member function in the base class. A main() is required to add up some a card of each type, and then to display their information. The object of the base class will not be instantiated.
2. According to the rules of inheritance, clearly specify (by adding comments in the derived classes) which of the members are inherited and clearly mention their access specifiers in the derived classes.
3. Draw the UML diagram of the above mentioned scenario in any software of your choice.