**ICS 108 – Object-Oriented Programming**

**Lab # 13 – Abstract Classes**

**Objectives:**

In this lab, the following topic will be covered:

1. Abstract Classes

**Task**

Design an abstract class **Student**. A student has the following data fields: Id and GPA. The student class has an abstract method getStatus that returns the status as a string. Design two subclasses **Undergraduate** and **Graduate**. The status of the graduate student is good if his GPA is 3.0 or above otherwise it is String. The undergraduate's status is honor if his GPA is 3.0 or above, good if his GPA is 2.0 or above, probation otherwise.

Write a test program that declares an array of type **Student**. Make some elements **Undergraduate** objects and some elements **Graduate** objects with random values. For every student, print his Id, GPA, and status.

**Notes:**

* Save every class in a separate file.
* Data fields should be private.
* Constructors and methods should be public.