**CSC 1302: PRINCIPLES OF COMPUTER SCIENCE II**

**Lab 5**

**How to Submit**

Please submit your answers to the lab instructor once you have completed.

Failure to submit will result in a **ZERO FOR THIS LAB. NO EXCEPTIONS**.

The class diagram with four classes Student, Math, Computer Science and Bioinformatics is given. The Write down the classes as described in the class diagram. The fields and methods for each class are given below.

**Student**

**Graduate**

**Undergraduate**

Student:

Fields: major (String)

gpa (double)

creditHours (int)

Methods:

getGpa: returns gpa

getYear: returns freshman, sophomore, junior or senior as determined by earned credit hours:

* Freshman: Less than 32 credit hours
* Sophomore: At least 32 credit hours but less than 64 credit hours
* Junior: At least credit hours SH but less than 96 credit hours
* Senior: At least 96 credit hours

Graduate:

Fields: degree (String) (“masters” or “phd”)

concentration (String)

years (int) (stores no. of years spent in grad school)

Methods: getYear: returns years

getConcentration: returns concentration

Undergraduate:

Fields: honors (Boolean)

Methods: isHonors: returns honors

* Write another client class.
* Create an object of class Undergraduate called John whose major is CS, gpa is 3.75, credit hours = 40 and honors = false.
* Create an object of class Graduate called Zooey whose degree is “Masters”, years = 1, gpa is 4, major =“computer science” and concentration is “Bioinformatics”.
* Print out the John’s major, gpa, year and use isHonors method to see if the student is an honors student.
* Print out the Zooey’s concentration, years spent in grad school and major.