

CSE248 HW 1 UML Diagrams and JUnit Test

1. Write a class diagram for the following project.

Write a Student class. The class should contain the following fields:

first name: draw randomly from the "first Names.txt" attached

last name: draw randomly from the "last Names.txt" attached

username: first four letters of the last name and first letter of the first name and last digit of the id number (see below)

password: first four letters of the last name and first letter of the first name and last digit of the id number (see below). The first letter of the password has to be capitalized.

id: a unique String of 8 characters long, starting from 00000000, 00000001, 00000002, etc.

gpa: a random value within the range of 0.00 and 4.00.

Write a StudentBag class: The class will be able to hold up to 2000 students. It should also have the usual insert, deletebyLastName, deleteById, getAverageGpa, findByLastName, and findById methods. Especially make sure all these methods are very efficient. Insert 1000 student objects into the bag.

Write Junit test cases so all meaningful methods in both Student and StudentBag classes are tested.

Write JavaFX GUI to show the program works.