

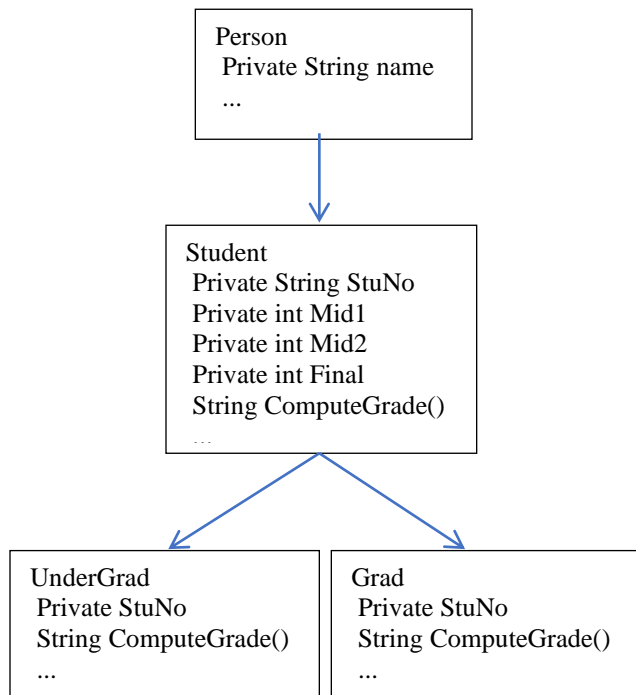
CMPE-CMSE416 Lab6

Due 06.09.22 (Tuesday)

Note: You should prepare a report and submit it to your assistant on due date. During the lab hour you should be ready for the questions that will be asked by the assistant related with this assignment.

In this lab you must use **Binary files** to store Undergraduate and Graduate students. In first run of your code if you have information in your files you have to read and display them. (Update your Lab4 and Lab5)

Question 1: We have the following Inheritance hierarchy between Person, Student, UnderGrad and Grad Classes.



- a) (20 pnt.) Create all the classes given above by using a Java project.
- Write appropriate constructors,
 - Write all the setter and getter methods,

- b) (10 pnt.) ComputeGrade() method will have different operations in UnderGrad and Grad Classes.

This method will return to “A”, “B”, or “F” in UnderGrad class, and “Pass” or “Fail” in Grad class.

Operations in UnderGrad and Grad classes for this method are:

$$\text{Average} = (\text{Mid1} + \text{Mid2} + \text{Final}) / 3;$$

UnderGrad	Grad
If (Average > 70) → "A" If (70 > Average > 60) → "B" If (Average < 50) → "F"	If (Average >= 70) → "Pass" If (70 > Average) → "Fail"

- c) (20 pnt.) Your GUI Should be as follows:

- d) (10 pnt.) Left Add button should take the information entered by the user for an Undergraduate student, calculate letter grade and add Name and computed letter grade to the end of the Jlist on the left bottom of the given Frame.

- e) (10 pnt.) Right Add button should take the information entered by the user for a Graduate student, calculate letter grade and add Name and computed letter grade to the end of the Jlist on the right bottom of the given Frame.
- f) (10 pnt.) Left Insert button should take the information entered by the user for an Undergraduate student, calculate letter grade and insert Name and computed letter grade to the first position of the Jlist on the left bottom of the given Frame.
- g) (10 pnt.) Right Insert button should take the information entered by the user for a Graduate , calculate letter grade and insert Name and computed letter grade to the first position of the Jlist on the right bottom of the given Frame.
- h) (5 pnt.) Put information on each button when you move mouse on them.

Sample Output:

Undergraduate Student		Graduate Student	
Name:	<input type="text"/>	Name:	Ali Mert
Stu No:	<input type="text"/>	Stu No:	180076
Mid1:	<input type="text"/>	Mid1:	70
Mid2:	<input type="text"/>	Mid2:	50
Final:	<input type="text"/>	Final:	100
Add		Add	
Insert		Insert	

Jhon Smith C Hasan Vehbi C	Felix Jhon Fail Ali Mert Pass
-------------------------------	----------------------------------