CMPE-CMSE416   Lab4
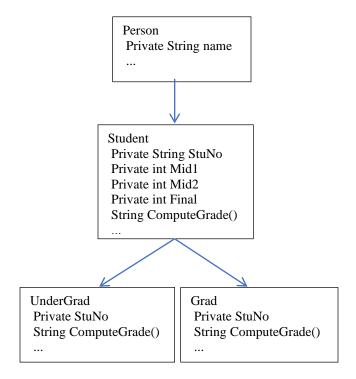
Note: You should **prepare a report** and submit it to your assistant on due date. During the lab hour you should be ready for the questions that will be asked by the assistant related with this assignment.

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

```
Person
 Private String name
 ...
```

```
Student
 Private String StuNo
 Private int Mid1
 Private int Mid2
 Private int Final
 String ComputeGrade()
 ...
```

```
UnderGrad
 Private StuNo
 String ComputeGrade()
 ...
```

```
Grad
 Private StuNo
 String ComputeGrade()
 ...
```

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

b) (10 pnt.) ComputeGrade() method will have different operations in UnderGrad and Grad Classes.
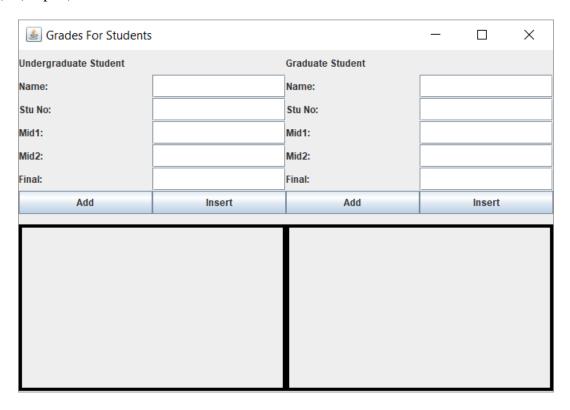
This method will return to "A", "B", or "F" in UnderGrad class, and "Pass" or "Fail" in Grad class.

Operations in UnderGrad and Grad classes for this method are:

Average=(Mid1+Mid2+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: