SECJ2154: OBJECT-ORIENTED PROGRAMMING
SESSION 2021/2022 – SEMESTER 2

PROJECT

INSTRUCTIONS:

1. This project must be conducted in a group of **3 or 4 students**. Please write the group members' names and matric numbers on the front page.
2. The file submission is in a **PDF** and **JAVA**. Only one group member on behalf submits thru e-learning.
3. This project contributes to 15% of overall course marks.
4. You are allowed to update the project report from time to time.

Tasks		Due Date of Submission
1	Group Project 1st Progress: - To form a group of 3 or 4 students - To find a case study related to the problems of post-COVID and technology trends in a simple real-world Java application such as Traffic Control System, Online Courier Services, **…** In the report: 1.0 Introduction - To address the problem focused on your project - To introduce your system is used in terms of what, who, where, why, when, and how	16/4/2022 11.59 PM MYT Filename: GP1-system's name.pdf
2	Group Project 2nd Progress: To construct UML Class Diagram based on your system: - Classes, Objects, Attributes, Methods, Modifiers, Variables (Primitive/Reference) In the report: 1.0 Introduction (already done in 1st progress) 2.0 Project Planning - To state what are the classes in your project - To state attributes and methods in each class - UML Class diagram Note: You may include class relationship, inheritance, polymorphism, … (If don't have it, you may include it in the next progress)	23/4/2022 11.59 PM MYT Filename: GP2-system's name.pdf

Tasks		Due Date of Submission
3	Group Project 3rd Progress: To write java source code statements that implement: - Array, vector, … In the report: 1.0 Introduction (already done in 1st progress) 2.0 Project Planning (already done in 2nd progress) 3.0 Project Design - To explain which concept(s) you implemented (for example, using an array or vector to store data values…) 4.0 Project Outcome - To print-screen the output of your current project progress after compiling and running your *.java Note: - To use any JAVA IDE (Eclipse, NetBeans, …) - To follow source file declaration rules. - To follow naming identifiers rules. - To use appropriate comments, proper indentation and spacing, and block styles.	14/5/2022 11.59 PM MYT Filename: 1. GP3-system's name.pdf 2. *.java Note: * depend on your project code
4	Group Project 4th Progress: To update the Class Diagram based on your system: - Class Relationship (Association, Aggregation, Composition), Inheritance, Polymorphism (Choose at least one type) In the report: 1.0 Introduction (already done in 1st progress) 2.0 Project Planning (**UPDATE HERE!!**) - To state which relationship(s) are used in your project - UML Class diagram 3.0 Project Design (already done in 3rd progress)	11/6/2022 11.59 PM MYT Filename: GP4-system's name.pdf

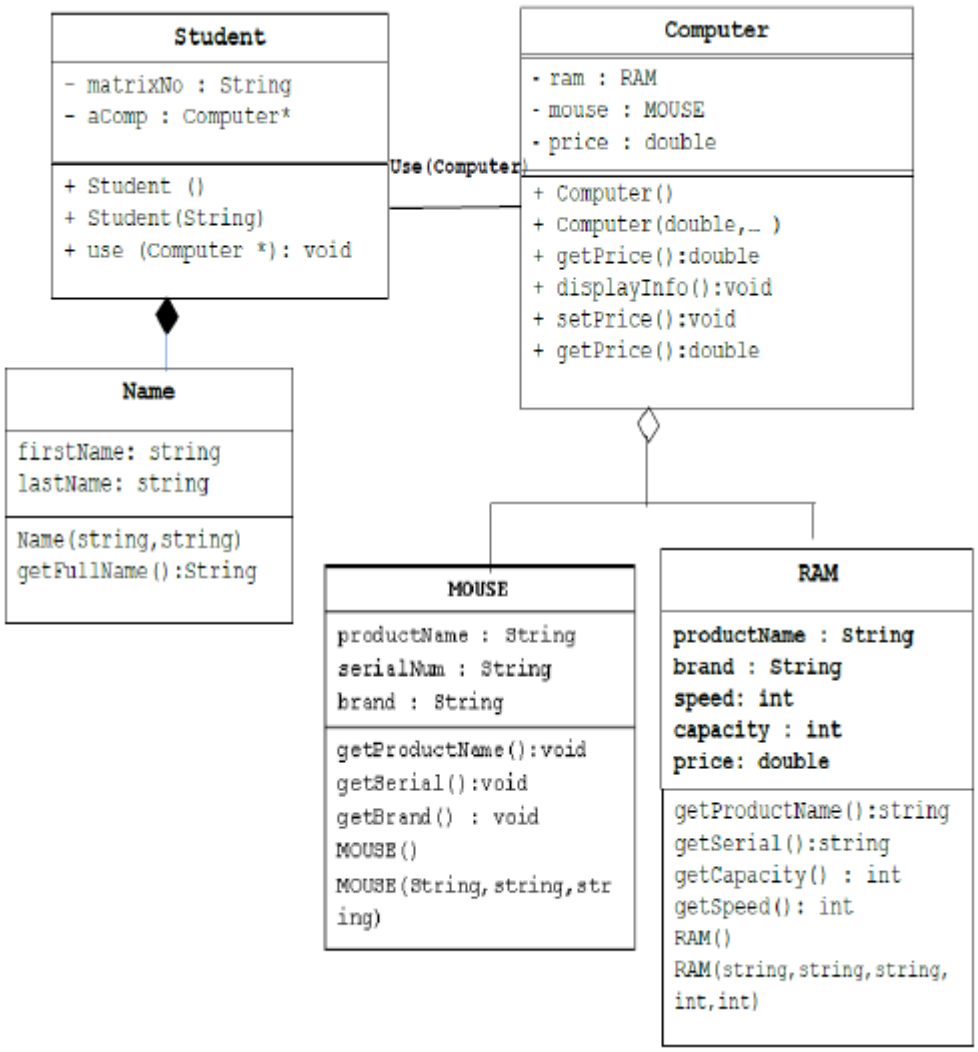
Tasks		Due Date of Submission
5	Group Project 5th Progress: To update java source code statements that implement: - Class Relationship (Association, Aggregation, Composition), Inheritance, Polymorphism (Follow your Class Diagram) In the report: 1.0 Introduction (already done in 1st progress) 2.0 Project Planning (already done in 4th progress) 3.0 Project Design (**UPDATE HERE!!**) - To explain which concept(s) of class relationship (association, aggregation, composition), inheritance, and polymorphism you implemented (for example, using association to show the relationship between Class1 and Class2…) 4.0 Project Outcome (**UPDATE HERE!!**) - To print-screen the output of your current project progress after compiling and running your *.java	18/6/2022 11.59 PM MYT Filename: GP5-system's name.pdf
6	Group Project Final Phase: - To finalize your project report - Group Project Demo/Presentation (Individual Evaluation) In the report: 1.0 Introduction (already done in 1st progress) 2.0 Project Planning (already done in 4th progress) 3.0 Project Design (already done in 5th progress) 4.0 Project Outcome (already done in 5th progress) 5.0 Conclusion - To summarize your system from input to process to output - To suggest anything that can be improved from your system - To include the recorded video link	30/6/2022 11.59 PM MYT Filename: 1. system's name.pdf 2. *.java Note: * depend on your project code

GUIDELINES FOR STUDENTS

Example of Class Diagram: Association, Aggregation, and Composition

Note:

You must have at least 4 classes that implement association, aggregation, and composition. Your program must implement an overloaded operator, array of objects, and provide a menu in the system.



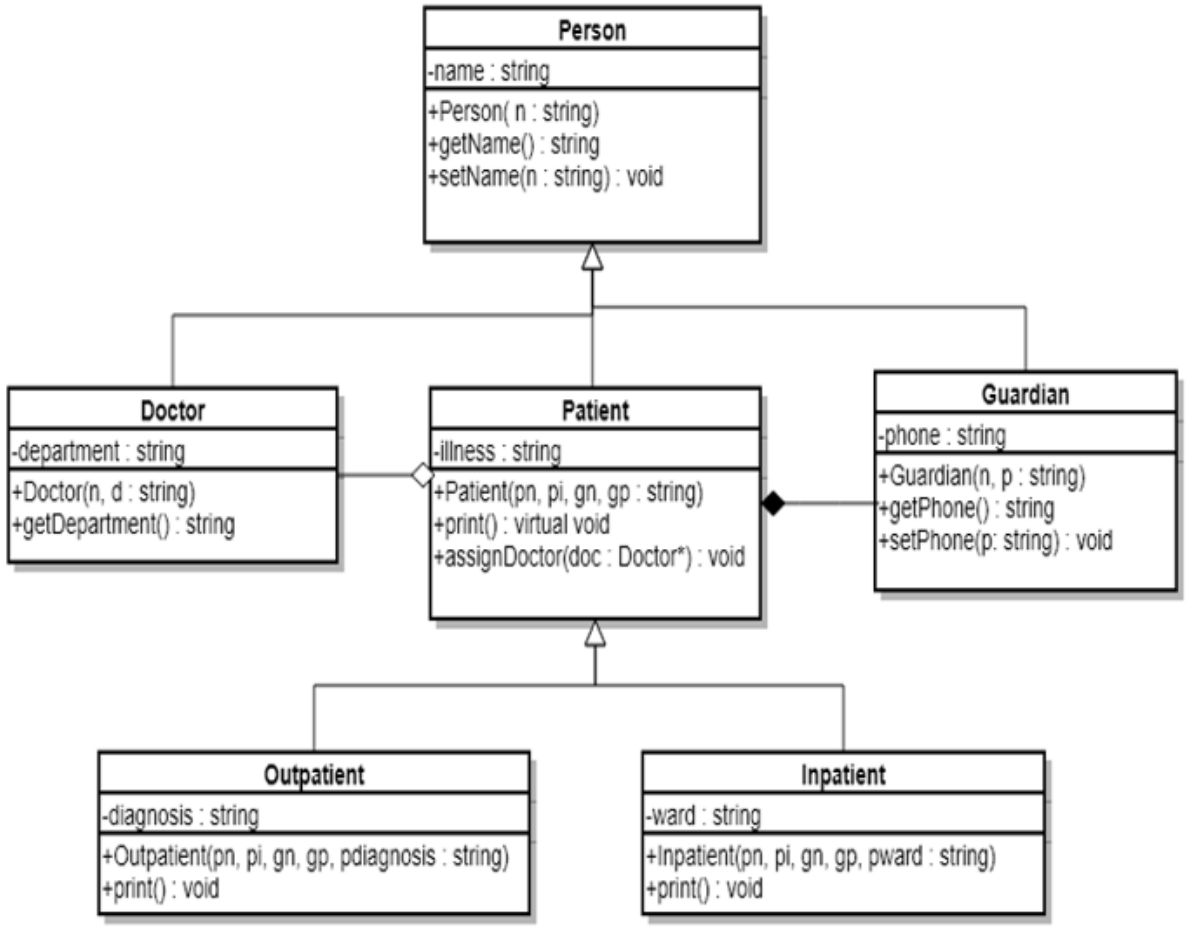
Example of Class Diagram: Inheritance and Polymorphism

Note:

You must implement inheritance, polymorphism, aggregation, and composition.

Your program must implement an array of objects, operator overloaded, and provide a menu in the system.

The inheritance concept must have several hierarchies as shown in the figure below, provide pure virtual function and implement the polymorphism concept.



GROUP PROJECT ASSESSMENT CRITERIA	
TASKS	**PERCENTAGE %**
GROUP PROJECT REPORT	
1.0 Introduction (Group Project 1st Progress) - To generally discuss the current trend - To address the problem focused on your project - To introduce your system is used in terms of what, who, where, why, when, and how	 0.5 0.5 0.5

2.0 Project Planning
- To state what are the classes in your project
- To state attributes and methods in each class
- To state which relationship(s) are used in your project
- UML Class diagram
  - Group Project 2nd Progress
  - Group Project 4th Progress
	
	0.5
	0.5
	0.5
	
	0.5
	1.0

3.0 Project Design (Group Project 3rd and 5th Progress) - To explain which concept(s) you implemented (for example, using an array or vector to store data values…) - To explain which concept(s) of class relationship (association, aggregation, composition), inheritance, and polymorphism you implemented (for example, using association to show the relationship between Class1 and Class2…)	 0.5 3.0

4.0 Project Outcome
- To print-screen the output of your current project progress after compiling and running your *.java
  - Group Project 3rd Progress
  - Group Project 5th Progress
	
	0.5
	1.0

5.0 Conclusion - To summarize your system from input to process to output - To suggest anything that can be improved from your system - To include the recorded video link	 0.5 0.5 0.5
GROUP PROJECT DEMO/PRESENTATION (INDIVIDUAL EVALUATION)	
Each member needs to do an individual demo/presentation by showing their faces and individual contribution to the execution of the group project	4.0
Total	**15.0**