

BIT203 Assignment 2

Release date : Monday, 29th November 2021
Due Date : Saturday, 1st January 2022
Value : 10%
Mode : Individual Assignment

Rational

This assignment has been designed to allow students to test and demonstrate their ability to write a Java program that uses a range of different concepts and facilities. This assessment relates to the following learning outcomes:

- CLO1 Write programs using several classes based on UML class diagrams and other models (C6, PLO2, MQF2)
- CLO2 Apply object-oriented concepts in the design and implementation of the programs (C3, PLO1, MQF1)
- CLO3 Develop a GUI application (C6, PLO3, MQF3a)

In particular, this assignment tests the students' ability to use appropriate class hierarchies and collection classes.

In this assignment you are required to create a suite of Java classes that form a Graphical User Interface for the same Private Covid-19 Vaccination Scheme (PCVS) you did in assignment 1. The main class you will write should be called **PCVSGUI** which replaces PCVSConsole from assignment 1. PCVSGUI must contain the **main method** for the application so that it can be launched with the equivalent of the command

```
java PCVSGUI
```

You will also have to write other classes at your own discretion, such as dialogs, frames and listeners, in order to provide the full functionality. You should be able to use the problem domain classes that you developed in your solution to assignment 1. If you prefer, you can use the problem domain classes provided in the sample solution.

Assignment Requirements:

Interface Design

You are expected to design your application **before** you start coding. Include in your submission a sketch of your proposed interfaces which may be hand-drawn or developed using a GUI design tool. Label all proposed components and containers (JFrames and JDialog) clearly.

GUI Application

You are required to produce a GUI application to implement the use cases for:

- Sign Up by Users, both Patient and Administrator ✓
- Administrator to record new vaccine batch ✓
- Administrator to view vaccine batch information ✓
- Administrator to confirm/reject vaccination appointment ✓
- Administrator to record vaccination administered ✓
- Patient to request vaccination appointment ✓
- Patient view status of vaccination appointment
- Listing of various objects (users, and vaccination appointments)
- Saving and Loading

The GUI may be written in either AWT or Swing, but the use of *JList* and *JTable* classes is recommended. The application should also provide a means to **save and load the data**. You

are free to use either text-based file IO or serialisation, but the latter is more likely to result in a stable application.

OO Design

Draw and include in your submission the class diagram showing how the GUI classes are related to each other and to the existing problem domain classes. Use the same names for the JFrames and JDialogs as in your Interface Design above.

Coding style and comments

Your source code should be clear and readable, using correct indentation, meaningful identifiers and comments. Include javadoc comments and tags as follows:

- for public classes, to indicate their purpose;
- for public methods, to indicate their effect, parameters and return values, as well as any exceptions they throw;
- for public fields, to indicate their purpose.

You will be expected to generate and submit the javadoc documentation for your classes as part of this assignment – included inside the submitted .zip.

What To Submit

Your submitted assignment to Turnitin should include the following:

- Cover sheet
- Your User Interface designs
- A design class diagram showing the attributes and operations, including the data types, in each class
- The java source code files for all classes together with the driver program PCVSGUI.
- Printouts of your source code using Courier-New 10-point size font. You may need to indent your code so that any long Java statements are nicely formatted, and not having the second line of a statement printed starting from the left-hand margin. You must print your output in **portrait** orientation. Printing in landscape mode will be penalised.
- Sample output that corresponds to the requirements of **each** use case.

SUBMISSION REQUIREMENT

Your assignment has to submit to TurnItIn:

1. All your Java source files, printed in Word document format
2. Printed output (showing your interactivity with your program) is to be included at the end of your Java source files, in Word document created in (1)
3. Generate a runnable jar file of your project, and compress the jar file together with all your java source files into ONE file.
4. Submit your solutions to the Turnitin link created in LMS:
 - The Word document created in (1) is uploaded to Part 1 in Turnitin.
 - The compressed file created in (3) is uploaded to Part 2 in Turnitin.

NOTE: Refer to the Excel file, *203A2MS_SS21.xlsx*, for detailed breakdown of the marks allocated for each task, as well as the requirement for each task.

Documentation

- You should include comments in your code stating what each method does and explaining any complex sections of code.
- You should include your student name and ID, date, and description about the class/program as comments within the code.
- You should of course use meaningful variable names so that your code is to some extent self-documenting.

Note:

If your program does not meet the requirements by the due date you should obtain help from the lecturer and notify the lecturer that you will submit the assignment late (marks will be deducted).

Note about testing and plagiarism

It is very important that you **complete** this assignment **alone**. You may of course obtain general assistance from the lecturing staff in the subject and your peers, but the coding must be carried out yourself. It is normally quite easy to detect when two or more students work together on their coding.

It is also very important that the demonstration of the results of your program using the given test data is produced using the identical version of the program to the printout of your source code. **Students who hand in substantially similar assignments or whose programs do not match their demonstration of testing will fail the assignment.**

Any student suspected of copying, or of not producing the work himself or herself, can be called for **oral examination**, where the student will be expected **to demonstrate sufficient knowledge of the application** to show that it is his or her own original work.

Assignment Cover Sheet

Student Information (For group assignment, please state names of all members)		Grade/Marks
Name	ID	

Module/Subject Information		Office Acknowledgement
Module/Subject Code	BIT203	
Module/Subject Name	Advanced OO Programming	
Lecturer/Tutor/Facilitator	Kok Chye Hock	
Due Date	1 st January 2022	
Assignment Title/Topic	Assignment 2	
Intake (where applicable)		
Word Count	n/a	Date/Time

Declaration

- I/We have read and understood the Programme Handbook that explains on **plagiarism**, and I/we testify that, unless otherwise acknowledged, the work submitted herein is entirely my/our own.
- I/We declare that no part of this assignment has been written for me/us by any other person(s) except where such collaboration has been authorized by the lecturer concerned.
- I/We authorize the University to test any work submitted by me/us, using text comparison software, for instances of plagiarism. I/We understand this will involve the University or its contractors copying my/our work and storing it on a database to be used in future to test work submitted by others.

Note: 1) The attachment of this statement on any electronically submitted assignments will be deemed to have the same authority as a signed statement.

2) The Group Leader signs the declaration on behalf of all members.

Signature:	Date:
E-mail:	

Feedback/Comments*
Main Strengths
Main Weaknesses
Suggestions for improvement

	Student acknowledge feedback/comments
Grader's signature	Student's signature:
Date:	Date:

Note:

- 1) A soft and hard copy of the assignment shall be submitted.
- 2) The signed copy of the assignment cover sheet shall be retained by the marker.
- 3) If the Turnitin report is required, students have to submit it with the assignment. However, departments may allow students up to **THREE** (3) working days after submission of the assignment to submit the Turnitin report. The assignment shall only be marked upon the submission of the Turnitin report.

*Use additional sheets if required.

