Final- EXAM (TEST-02) – Winter 2022 – SEC-003

Date and Time: From 12.00 pm to 3.00 pm, Thursday, 21st April, 2022

Marks/Weightage: 50/25%

VERY IMPORTANT: YOU ARE REQUIRED TO RECORD AND UPLOAD A SHORT VIDEO (3 MINS TO 5 MINS) OF YOUR OF IMPLEMENTATION.
ALSO, YOU ARE REQUIRED TO LOGIN AT THE BEGINNING OF THE TEST AND REMAINED LOGGED IN TILL YOU UPLOAD/SUBMIT YOUR TEST SOLUTION.
YOU MAY BE ASKED TO DEMONSTRATE YOUR SOLUTION AS ADVISED BY THE TEACHER.

Be sure to read the following general instructions carefully:

- This lab test **must be completed individually** by all the students.
- Read the project **naming and submission guidelines** carefully.
- After completion and testing, **submit the project through the Final-Term Exam link on e-Centennial**.
- **Only the .zip file is accepted and only one zip file and one upload is allowed**

Android Project Naming rules:

You **must** name your Android Studio project at the start of the Android Studio, according to the following rule:
Yourfullname_COMP304Sec003_Test02

Example: **JohnSmith_COMP30Sec003_Test02**

Submission Rules: [Only the .zip file is accepted and only one zip file and only one upload is allowed]

Archive your project in a **zip file** named according to the following rule:
Yourfullname_ COMP304_002_Test02.zip
Example: **JohnSmith_COMP304_002_Test02.zip**

Upload the project through the **Final-Term Exam link** on **eCentennial**.

NOTE: IF SOMEONE FAILS TO UPLOAD THE FINAL TEST ON OR BEFORE THE DEADLINE, THEN IT WILL NOT CONSIDERED. AND IF AT ALL, IT IS CONSIDERED DUE TO VALID REASONS/EXTREME SITUATION, THEN THERE WILL BE 50% DEDUCTION.

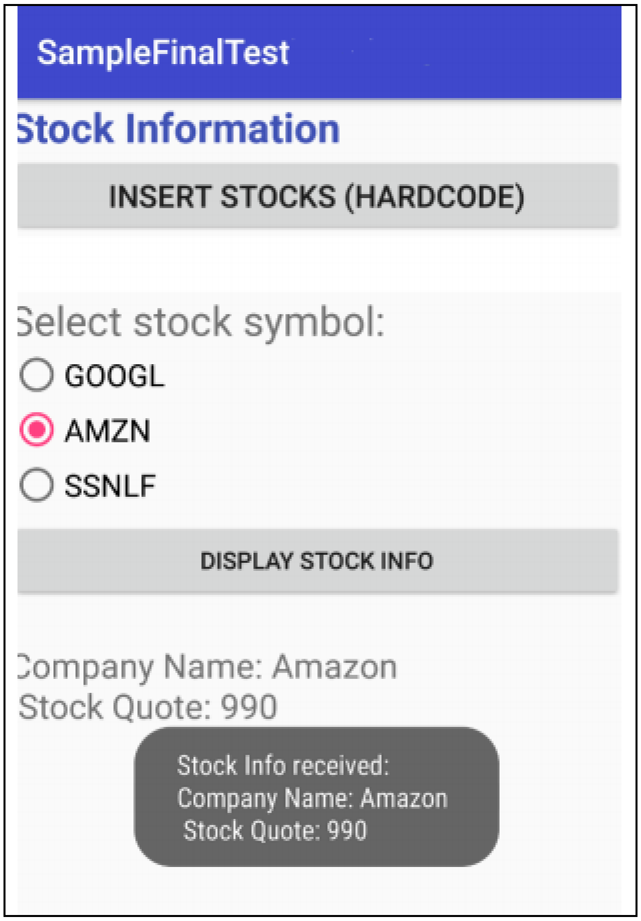
IDE for the Test 02:

a) Android Studio Version should be – Arctic Fox
b) Android Studio gradle plug-in should be – 6.0.0 (or as per what you have used during the term)
c) Gradle Scripts version should be – 6.1.1 (or as per what you have used during the term)
d) Programming Language – Java SE7 onwards
e) Emulator version similar to used in the class

Exercise #1

Develop an Android application:

a) That retrieves stocks information from a **Room** database and sends it to a phone device/emulator using SMS or e-mail. (refer tutorials on e-mail and SMS on e-centennial)
b) Your application should use **MVVM-Repository** architecture.
c) Start a new Android Studio project. Name it as **Yourfullname_COMP304_003_Test02**.
d) Create a new class name **StockInfo** that declares the following private instance variables:
private String stockSymbol; //primary key
private String companyName;
private double stockQuote; // stock value
e) Generate a default constructor, a constructor with three arguments, and getter/setter methods. Apply the necessary annotations to make this an **entity** class.
f) Create the **DAO** interface, **Room** database class, **Repository** class, **ViewModel** class and the **UI Activity**.
g) In the main activity:
1. Populate table **StockInfo** table with two rows (*hardcode this or put the values in strings.xml file AND read from there. Google and get the real stock quotes/values*). Put this code in the **onClick** event of **Insert Stocks** button.
2. When the user clicks on **Display Stock Info** button:
a. Select the stock symbol from the RadioButton controls.
b. Retrieve the company name and stock quote from StockInfo table.
c. Display the Stock Info in a text view
d. If you have to use an e-mail or SMS then:
Send an SMS message with the company name and stock quote/value to a phone device/emulator (it could be the same device).
Make sure the information is displayed on its screen. Refer screen shot below.



Select stock symbol:

○ GOOGL

● AMZN

○ SSNLF

Company Name: Amazon
Stock Quote: 990

Stock Info received:
Company Name: Amazon
Stock Quote: 990

Evaluation:

Functionality:	
Main activity (**UI** and **event handling**)	30%
Using Room Database API (MVVM – Repository)	45%
SMS API or e-mail	15%
UI friendliness and defining resources in XML files:	10%
Total:	100%