**Lab Assignment #4**

Purpose: The purpose of this lab assignment is to:

1. Develop an Android App that manipulates a Room database
2. Use **Room persistence library**
3. Use **MVVM** architecture

References: Textbook, ppt slides, videos, and Android tutorials (https://developer.android.com/codelabs/android-room-with-a-view-kotlin#8, https://developer.android.com/training/data-storage/shared-preferences). This material provides the necessary information that you need to complete the exercises.

**Exercise 1**

In this exercise you will write an Android application that allows the nurses to keep track of various tests performed daily on patients in a hospital. Your application could be used by nurses in hospitals or testing centers. Use **Room persistence library and MVVM pattern** (as shown in class examples) to create and manipulate the application's database. Create the following **entities**:

|  |  |  |
| --- | --- | --- |
| **Patient** | **Test** | **Nurse** |
| patientId  firstname  lastname  department  nurseId  room | testId  patientId  nurseId  BPL  BPH  temperature | nurseId  firstname  lastname  department  password |

Add more fields to Test entity, to describe **other medical tests**. Your application should contain the following activities:

1. The **main activity** that handles the navigation.
2. The **login activity** will allow the nurse to **login.** Use nurseId as user name for the nurse.
3. The **patient activity** will allow the nurse to **enter/view patient** information.
4. The **test activity** will allow a nurse to **enter test** data for a patient.
5. The **view test info** activity will allow the nurses to **view test information** for a given patient.
6. The **update info** activity will allow the nurse to **update**/**display patient information**.

Use **Shared Preferences** to store nurseId after successful login. Provide a friendly and easy to navigate UI. Use images and image buttons.

**(10 marks)**

**Evaluation:**

|  |  |
| --- | --- |
| **Functionalities**:   * Correct implementation of the model (entity classes, Room database, Dao, and Repository classes) * Correct implementation of ViewModel class. * All activities working, proper naming of activities, variables, and methods. Provide comments.   Provide explanation when asked during the demonstration of the app. | 30%  20%  25% |
| **UI friendliness** (proper layout, controls, styles, themes, images) | 15% |
| **Declaring resources** in proper resource files | 5% |
| **Innovative features** | 5% |
| **Total** | **100%** |