

CMPS 312 Mobile App Development

QuickMart App

Lab Assignment 4

Deadline – Tuesday, November 28, 2023 11:59PM

Objective

The objective of this assignment is for you to practice Room database library to write, read and query records from the SQLite database.

Preparation

1. Sync the Lab GitHub repo and copy the **Assignment/Assignment4** folder into your repository.
2. Open the project **QuickMart App** in Android Studio. The project has the baseline code implementation using JSON files for reading the data.
3. The code that is related to the ViewModel, Navigation and Composable are implemented for you. However, the code related to the room database is not implemented. So, it is your task to complete any of the missing code.

Overview

For this assignment, you are required to implement the Room Database to achieve functionalities similar to the baseline application provided. The application should allow users to edit, update, delete, filter products, cart items, and favorite items. The app should retain all data even when closed.

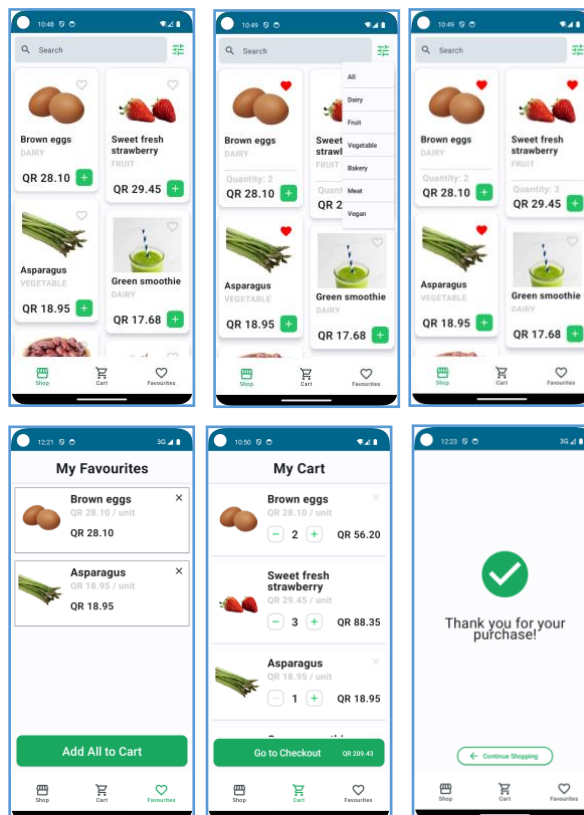


Figure 1 QuickMart App

Implementation Instructions

1. Create the necessary Entity classes as shown in the figure below. Also make sure you add the cascade delete/update and also enforce integrity checks using the foreign keys.

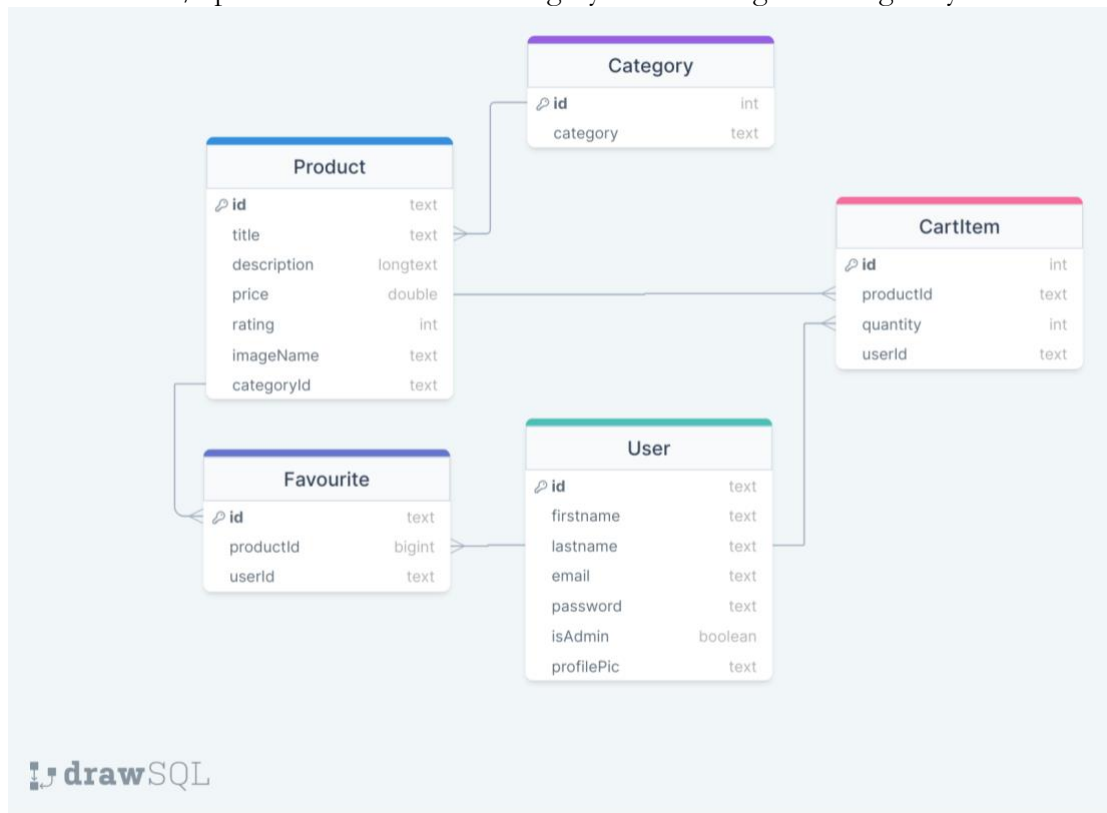


Figure 2 : QMart Entity Relationship Diagram

2. Create Data Access Objects (DAO) Interface and the Database classes.
3. Inside the DAO Interfaces create all the necessary functions and annotations that allow the user to do all the CRUD operations required for the application to work, such as filter products by category, add product to cart item, add product to favorites, delete from favorites, change rating of a product etc..
4. Implement the QuickMart Repository with all necessary methods.
5. Establish a connection between the repository and the view model, ensuring the seamless functionality of the application. Resolve any issues within the view model to integrate your repository implementation effectively.

Important

- Ensure that all queries are implemented inside the database and do not rely on Kotlin language filters, finds, etc.
- Each student is expected to have a unique app that accomplishes the assigned tasks.
- You are free to use any theme, font, color, or icons of your choice.
- Feel free to reuse code from your previous assignments.
- Discussions with colleagues are allowed, but refrain from sharing your code. Plagiarism will result in zero grades for both parties

Submit the testing sheet as well as the code under “**your_repository/assignments/assignment4**”