Android Kotlin App: Login + Room + Retrofit + MVVM

1. App Overview

This app is built using Kotlin and follows the MVVM architecture.
It uses Room Database for local storage, Retrofit for networking, and Navigation Component for seamless screen transitions.
The main features include login/registration, session management, user profile handling, and displaying data from an API.

2. Libraries Used

- Room (2.6.1) - Local database storage for users
- Retrofit (2.9.0) - API call for displaying posts
- Navigation Component (2.7.7) - Handles screen navigation
- ViewModel, LiveData - MVVM pattern
- Coroutine - Asynchronous tasks
- SharedPreferences - Session management
- ViewBinding - Easier view references

3. Feature Flow

- SplashScreen -> Checks if user is logged in via SharedPreferences.
    - If logged in, goes to Home.
    - Else, goes to Login screen.

- LoginFragment -> User enters email and password.
    - If matched in Room DB, logs in and saves session.
    - If not registered, shows dialog with Register button.

- RegisterFragment -> Registers new user into Room DB.

- HomeFragment -> Fetches posts from https://jsonplaceholder.typicode.com/posts using Retrofit.
    - Shows ID, title, body in RecyclerView.
    - Top right icon -> Profile.

- ProfileFragment -> Shows user info (name, email, phone).
    - User can update, logout, or delete account.

4. Room Entities

- User (id, name, email, password, phone)
- Transaction (id, userId, amount, description, date) [Optional / Placeholder]

5. Navigation Graph

Defined in res/navigation/nav_graph.xml, includes:
- SplashFragment
- LoginFragment
- RegisterFragment
- HomeFragment
- ProfileFragment

With appropriate actions between them.

6. Retrofit Integration

- Post model: id, title, body
- RetrofitClient.kt -> Singleton for API service
- ApiService.kt -> @GET("posts")
- PostRepository.kt -> Exposes getPosts()
- HomeViewModel.kt -> fetchPosts() to update LiveData
- RecyclerView Adapter to display posts

7. Profile Screen Features

- Load user data from DB using user ID stored in session
- Update name, email, phone
- Logout: clears SharedPreferences, redirects to login
- Delete: deletes user from DB, redirects to register screen