Experiment2.3

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Branch: CSE **Section/Group: 606/B**
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Subject Name: Mobile App Development **Subject Code: 21CSH-355**

1. **Aim:** Create an Android application using Fragments.

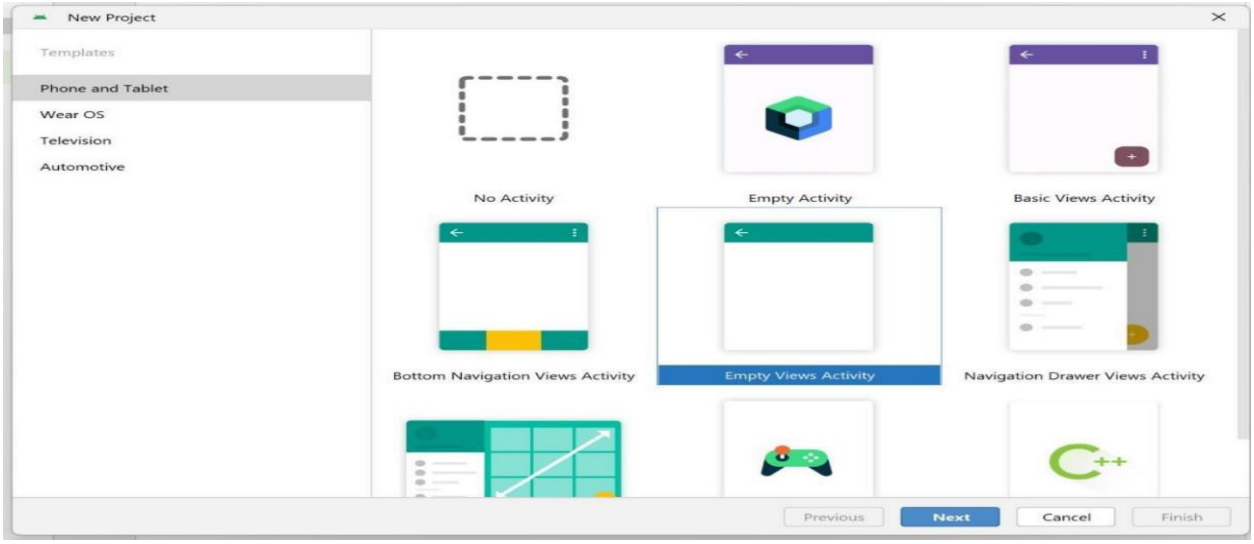
2. **Objective:** The objective of an Android application using Fragments can be to enhance the user interface and improve the overall user experience by leveraging the benefits of fragment-based design. Fragments allow developers to create more modular, flexible, and scalable UI components.

3. **Input/Apparatus Used:**

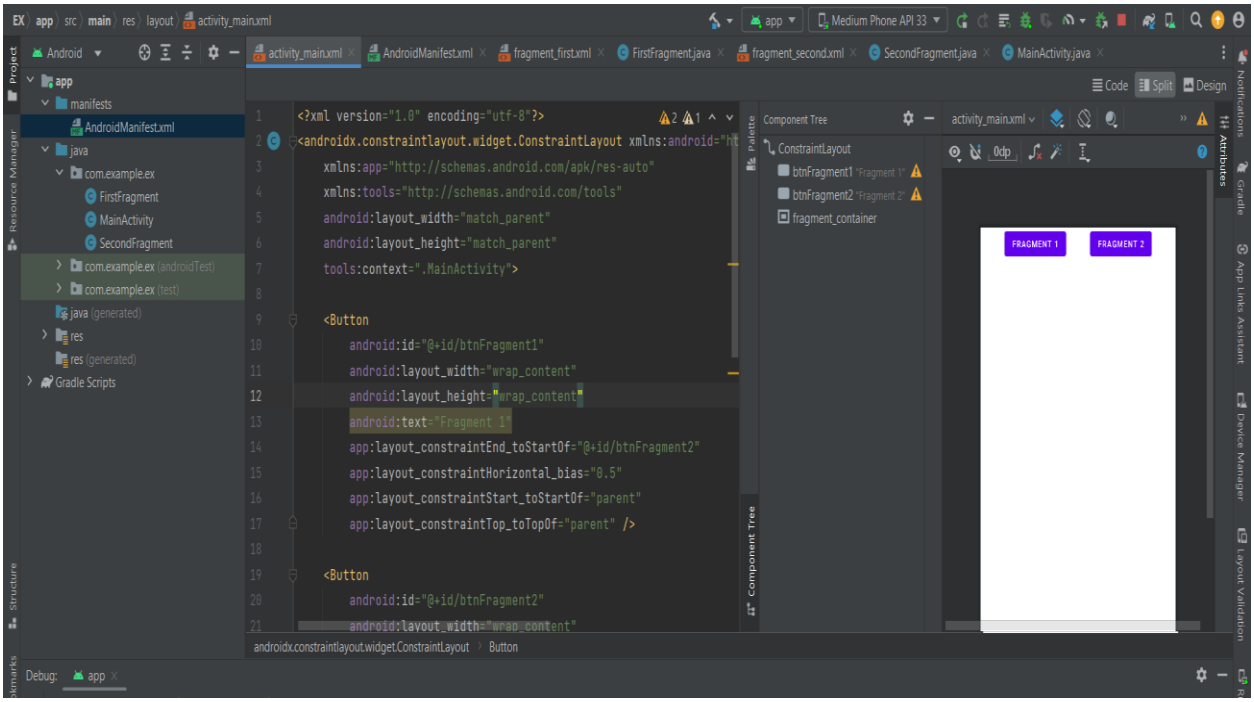
- **Android Studio:** The official IDE for Android development. Download and install Android Studio from the official website: Android Studio.
- **Android SDK:** The Android Software Development Kit (SDK) is essential for developing Android applications. Android Studio usually comes bundled with the SDK, but you may need to update it through the SDK Manager within Android Studio.
- **Java Development Kit (JDK):** Android apps are primarily written in Java or Kotlin. Make sure you have the Java Development Kit installed. Android Studio supports JDK. You can download it from the Oracle website: Java SE Downloads.
- **Android Virtual Device (AVD) or Physical Android Device:** You need a device to test your Android application. You can use an emulator (AVD) that comes with Android Studio or a physical Android device connected to your computer.

4. **Procedure:**

Step 1: Open Android Studio: Open Android Studio and create a new project.



Step 2: Open the "activity_main.xml" file and add two buttons to change the fragments when clicked and set the layout for them.



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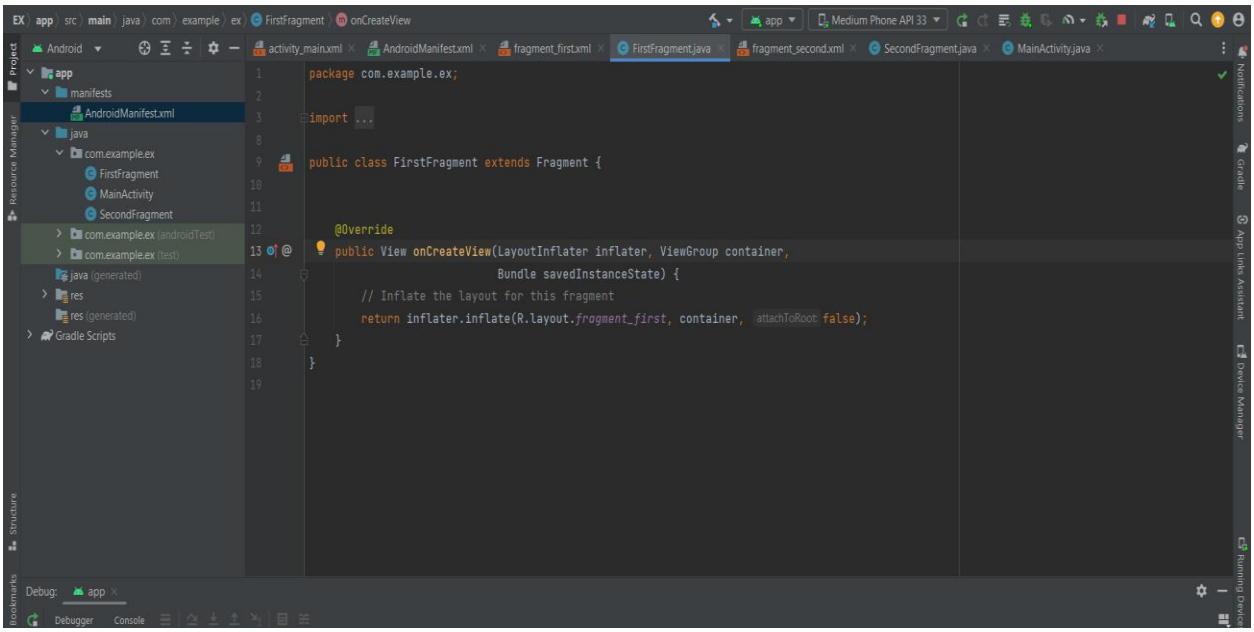
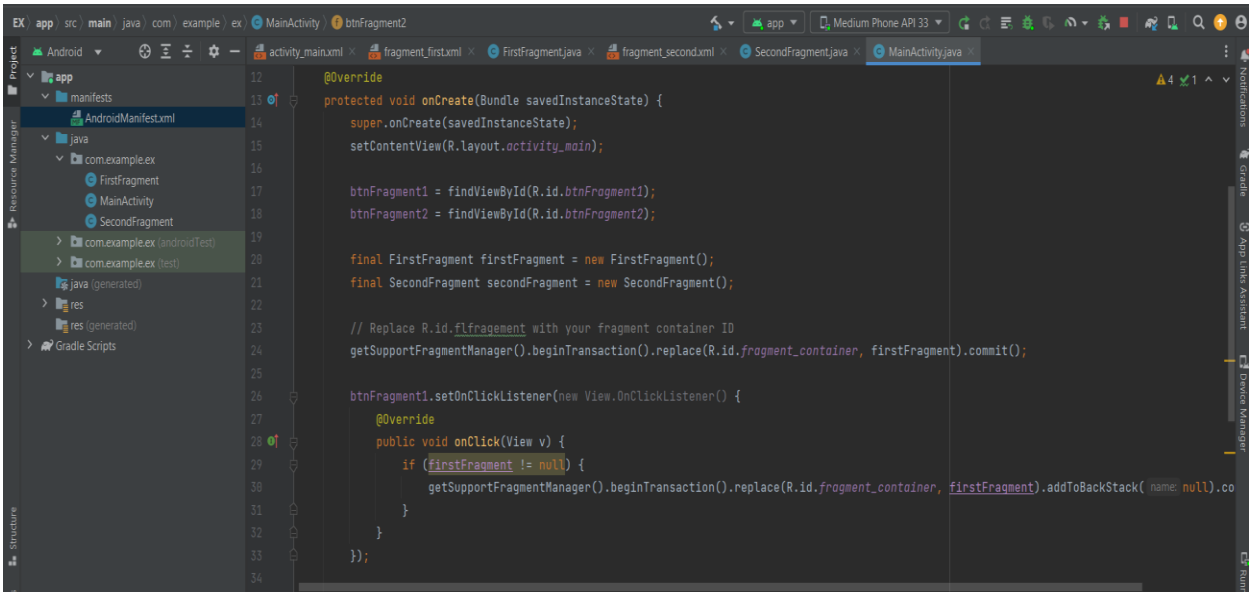
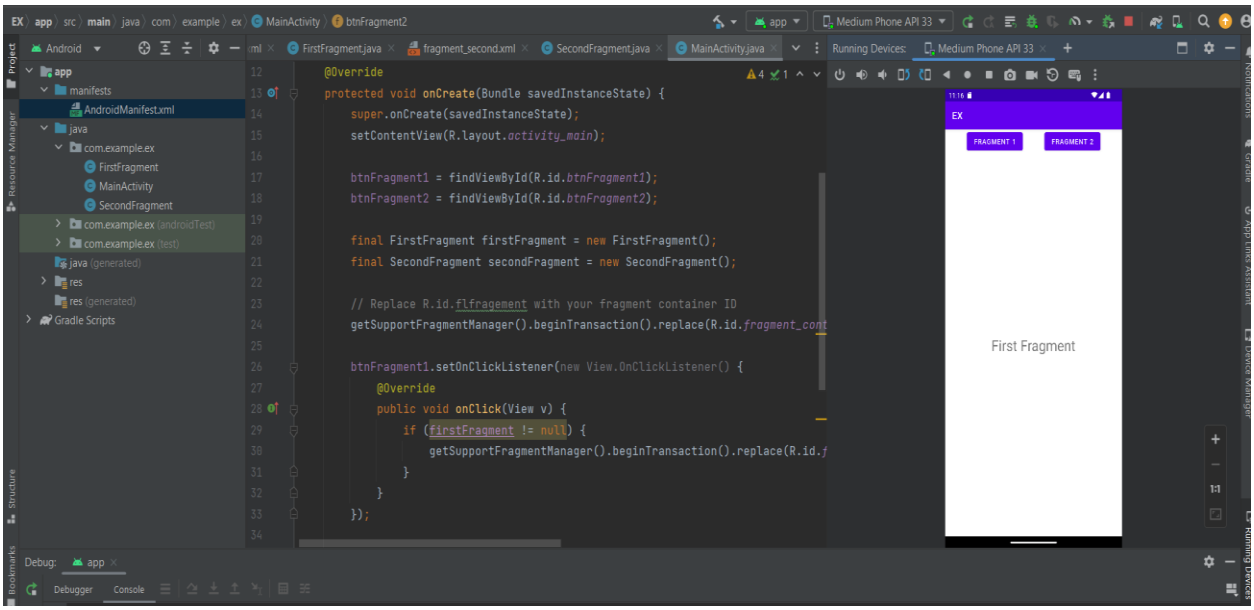
Step 3: Now create two new fragment "Fragement1 and Fragment2" and xml files for both the fragments and set the layout. In activity (MainActivity), instantiate the fragments and perform fragment transactions to display them.



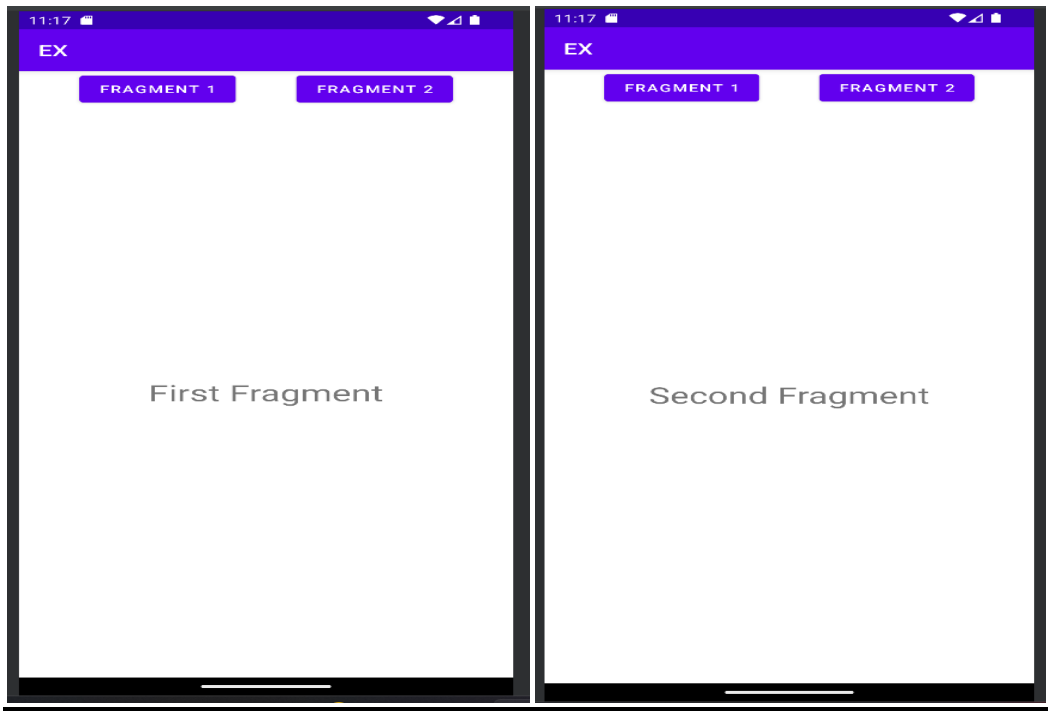
Step 4: Implement logic to handle fragment transactions, such as switching between fragments based on user interactions.



Step 5: Create an emulated virtual device in Device Manager and Run the App:



5. Output:



6. Learning Outcomes:

1. I have learned the process of installing Android Studio, a tool for Android app development.
2. I understand the importance of configuring SDKs and virtual devices for a smooth development environment.
3. I now understand the significance of testing applications on a virtual device, ensuring a well-prepared development setup.