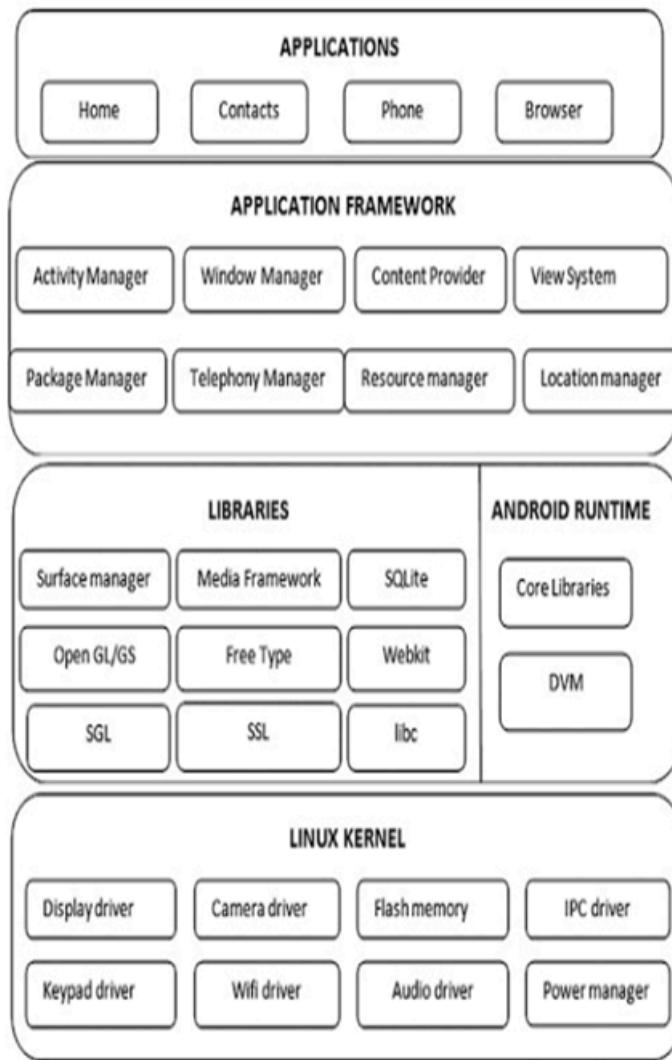
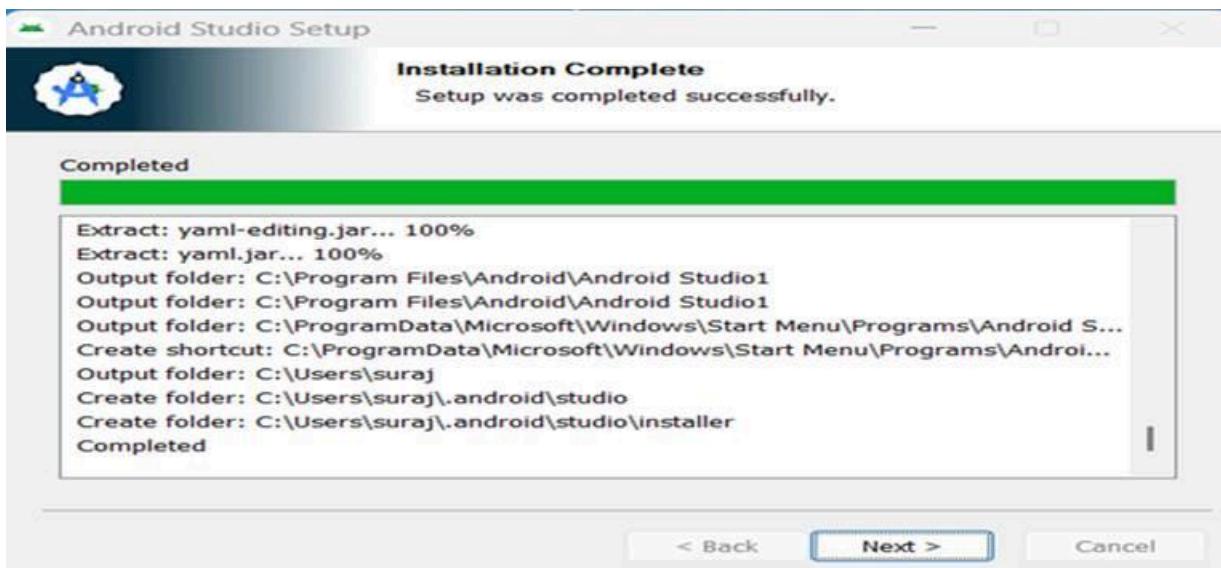
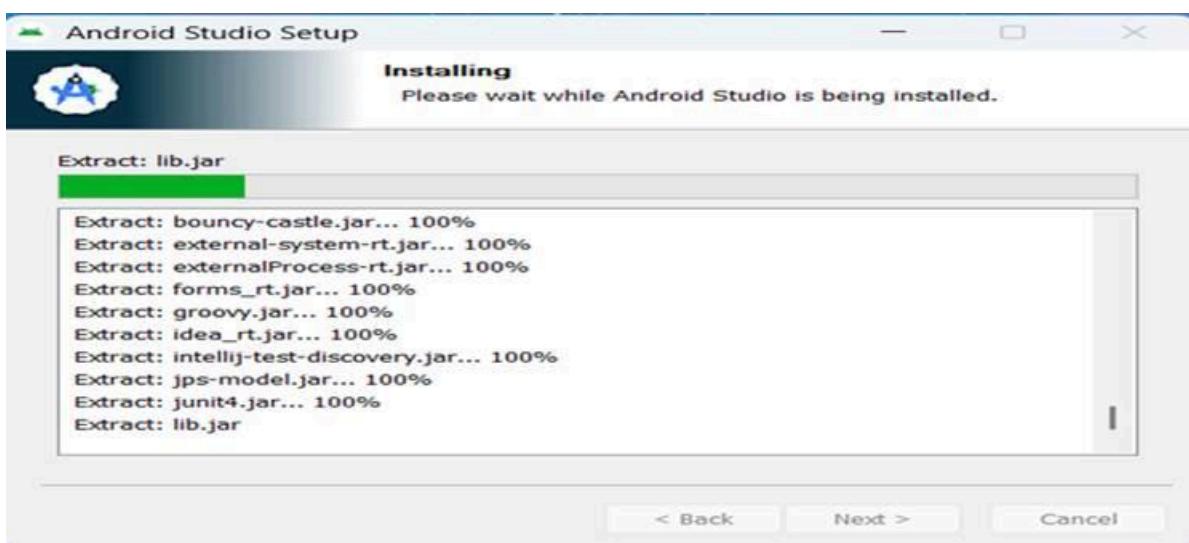


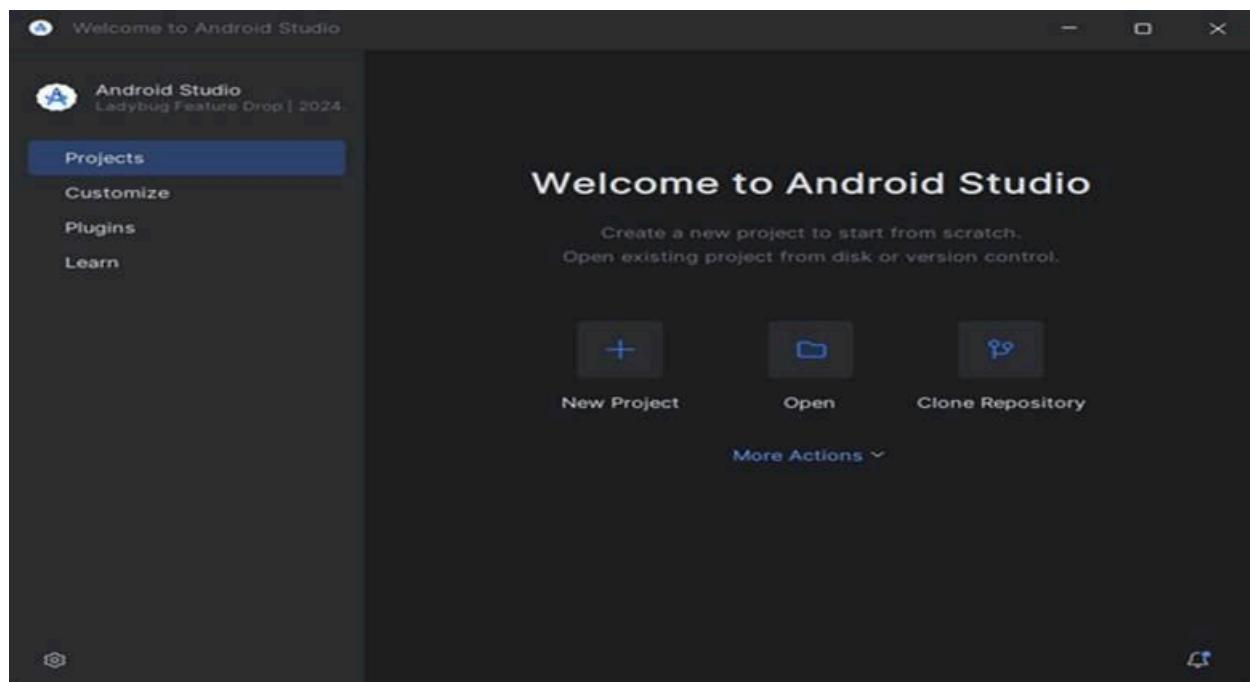
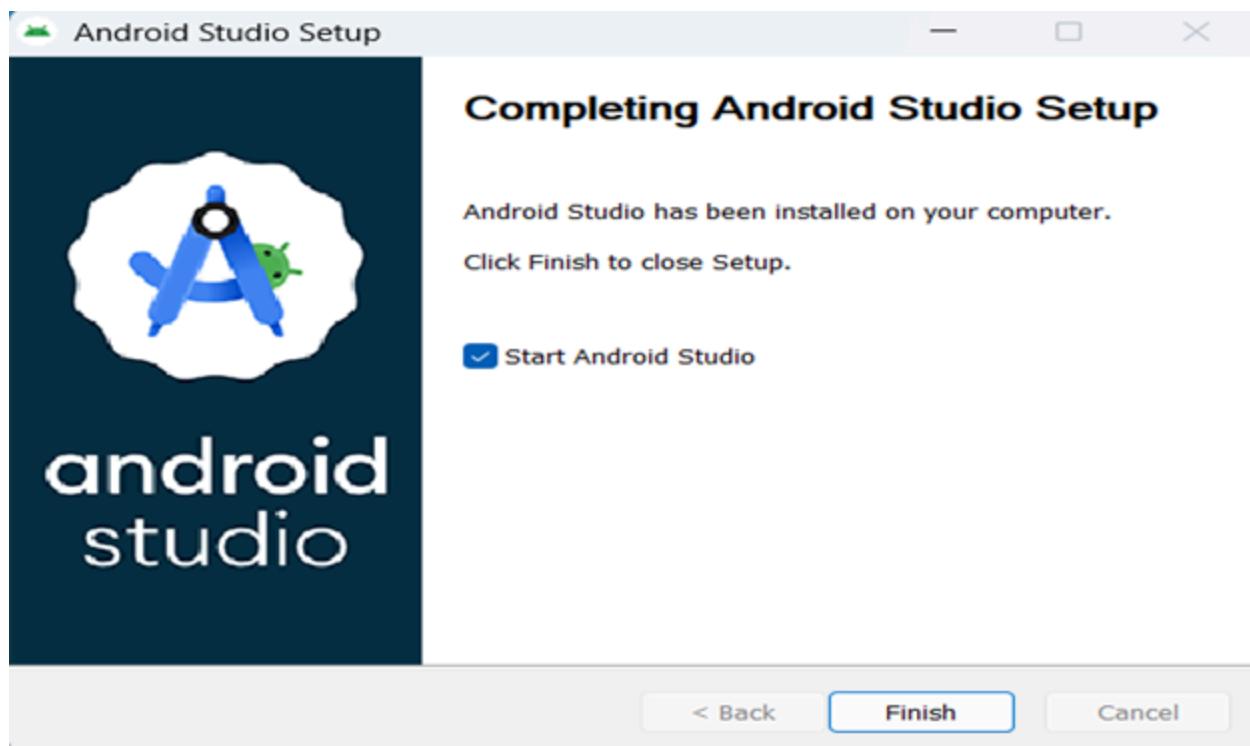
## Practical 01: Installation & Introduction

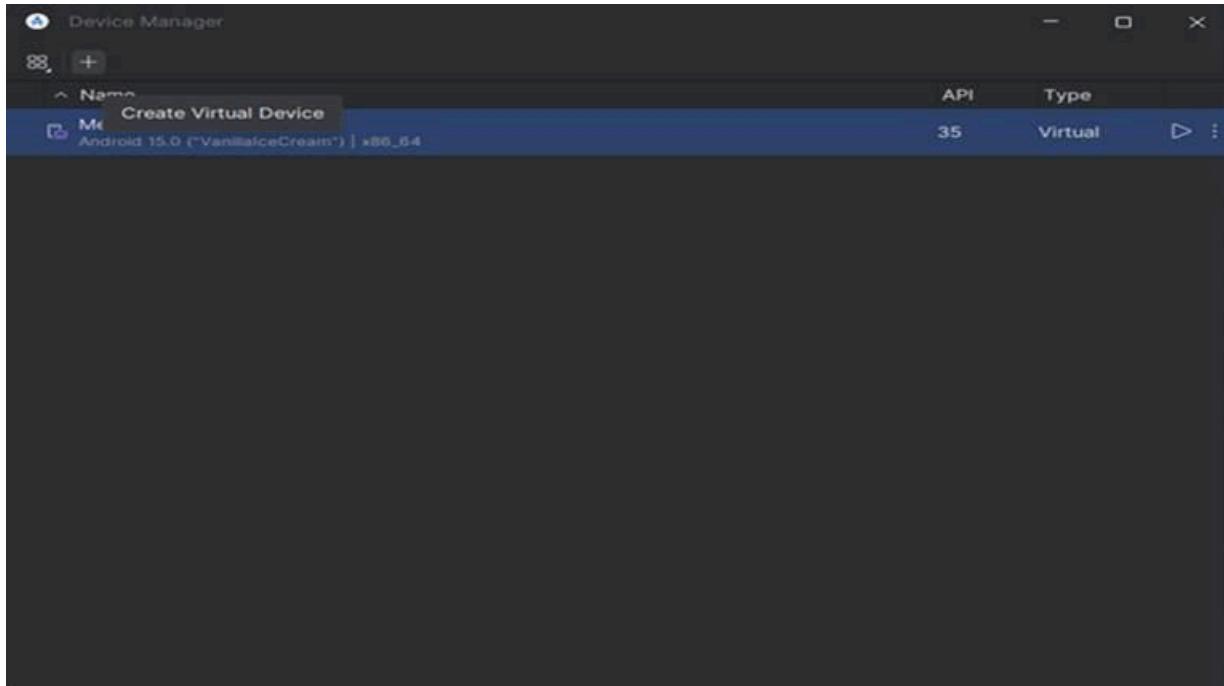
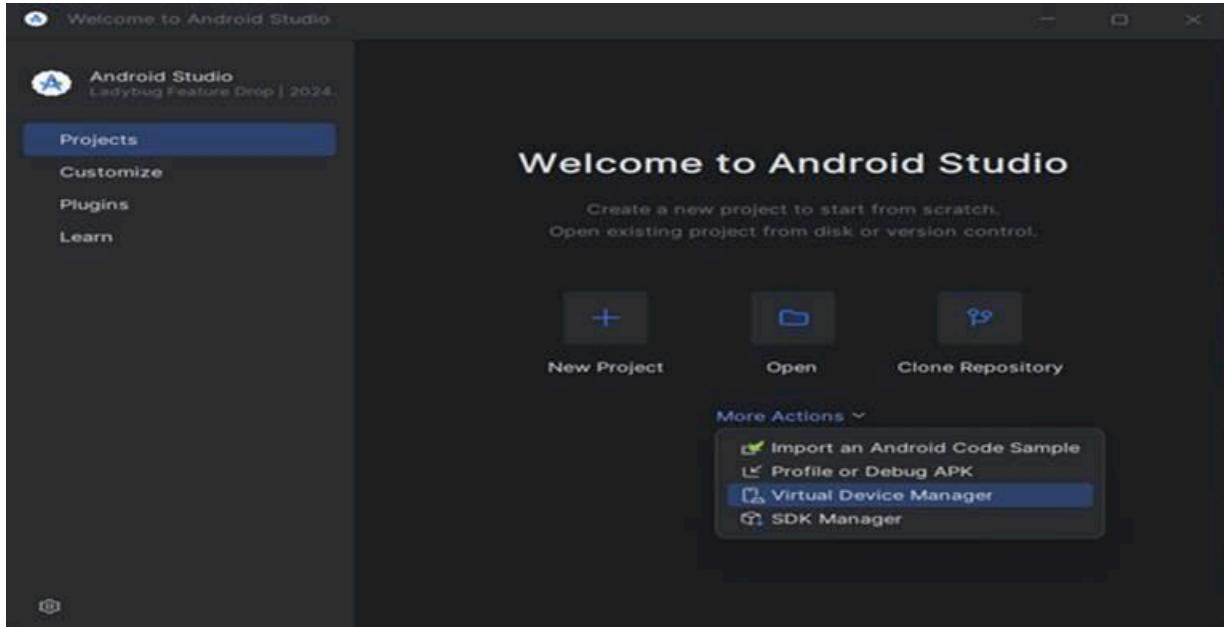
### What is Android Architecture?

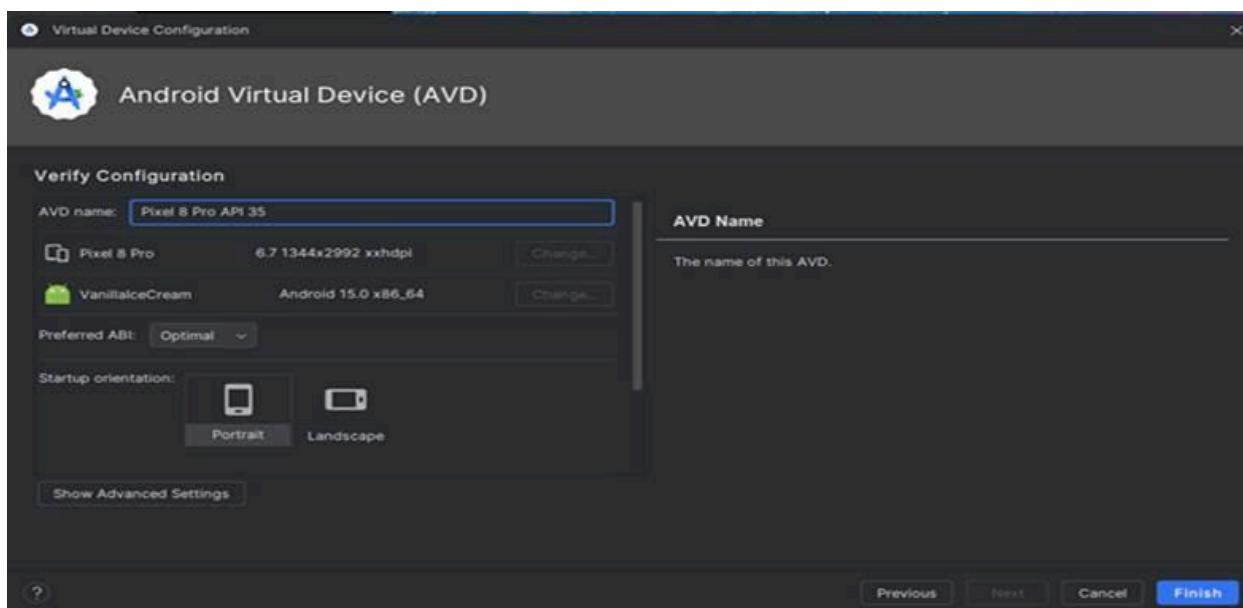
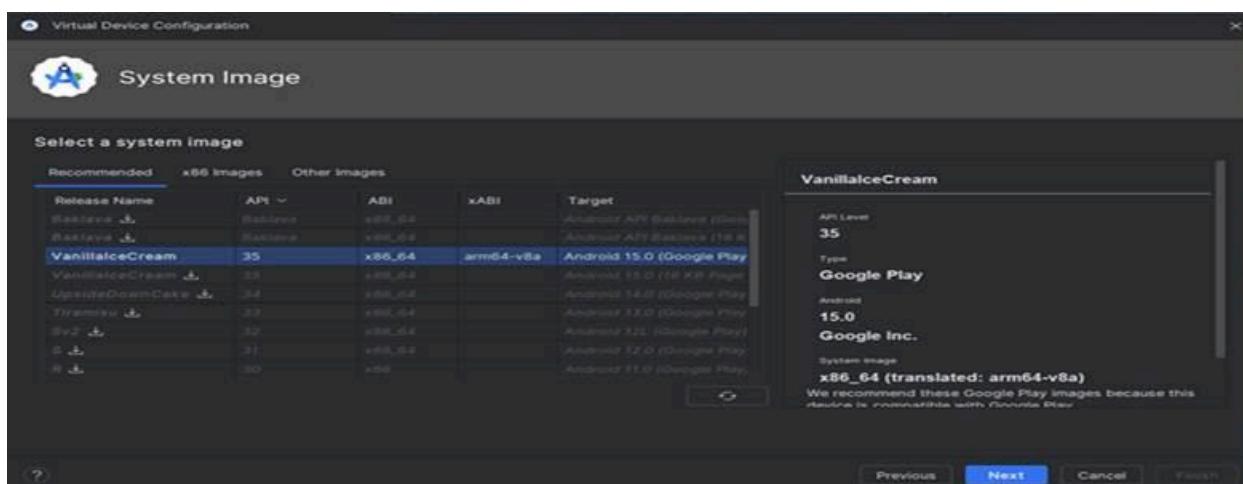
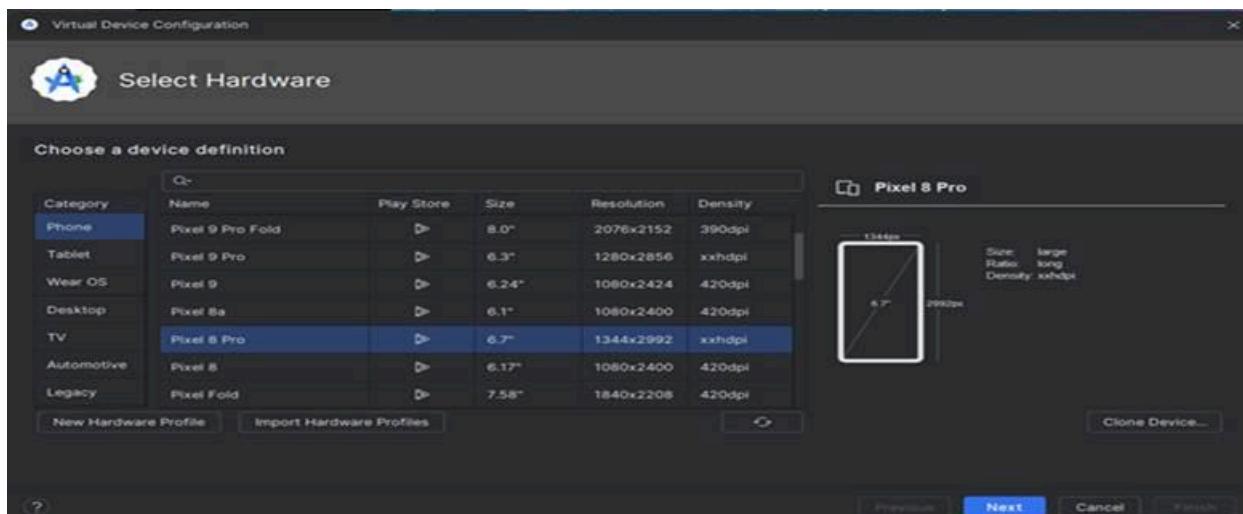


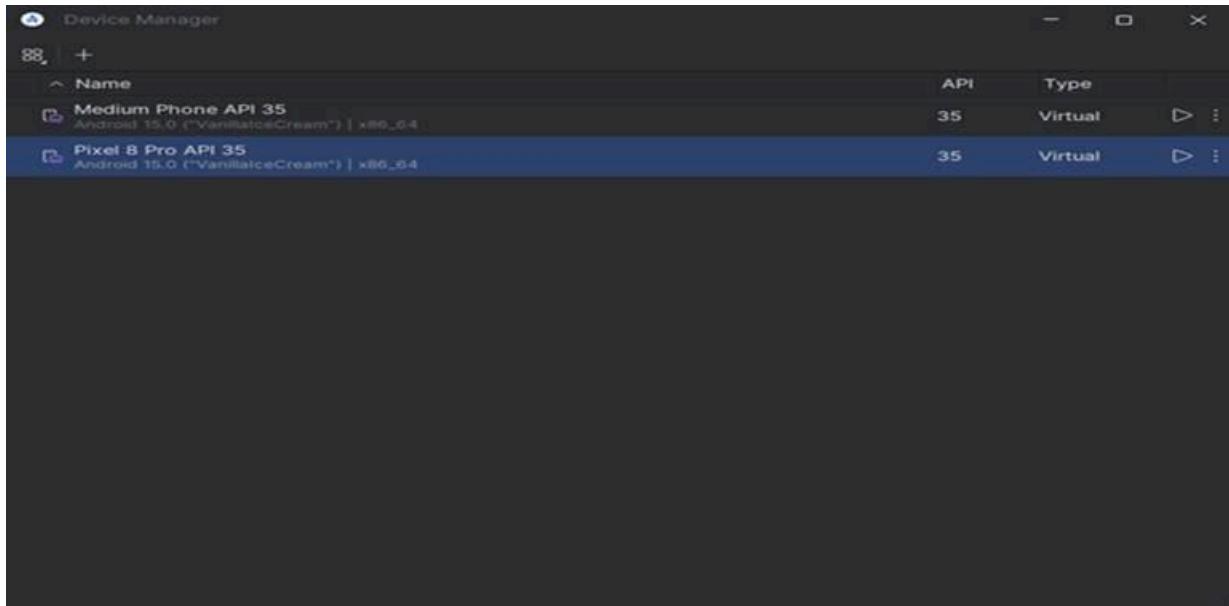
**Android Studio Installation:**



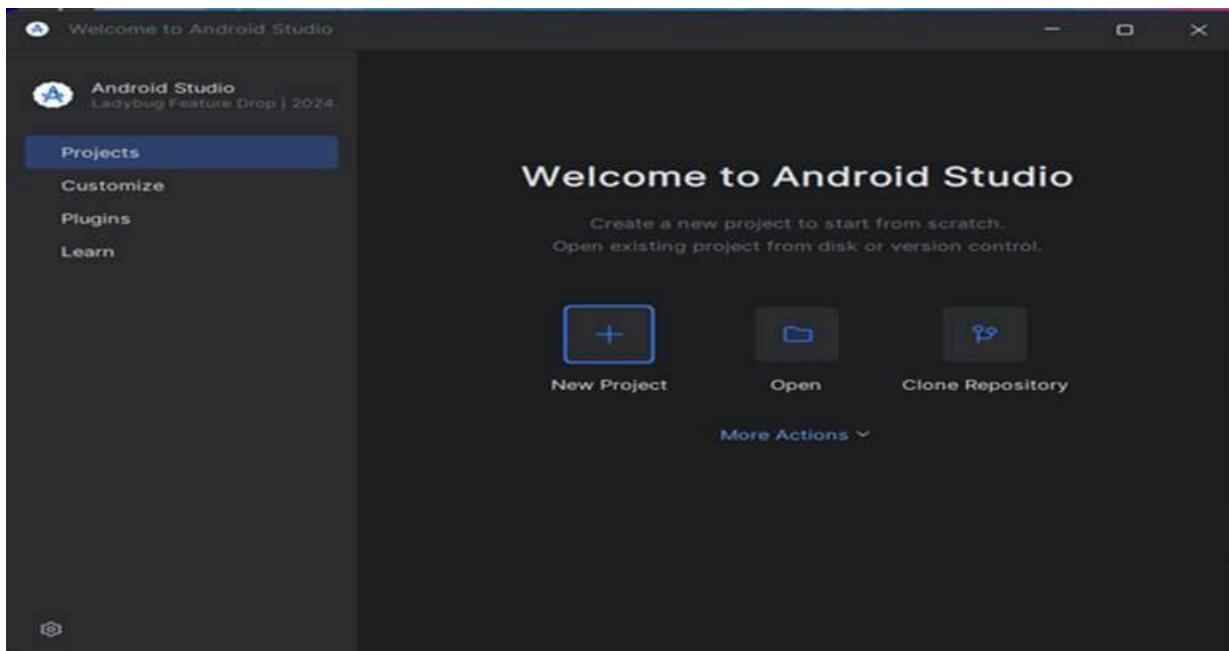


**AVD Creation:**

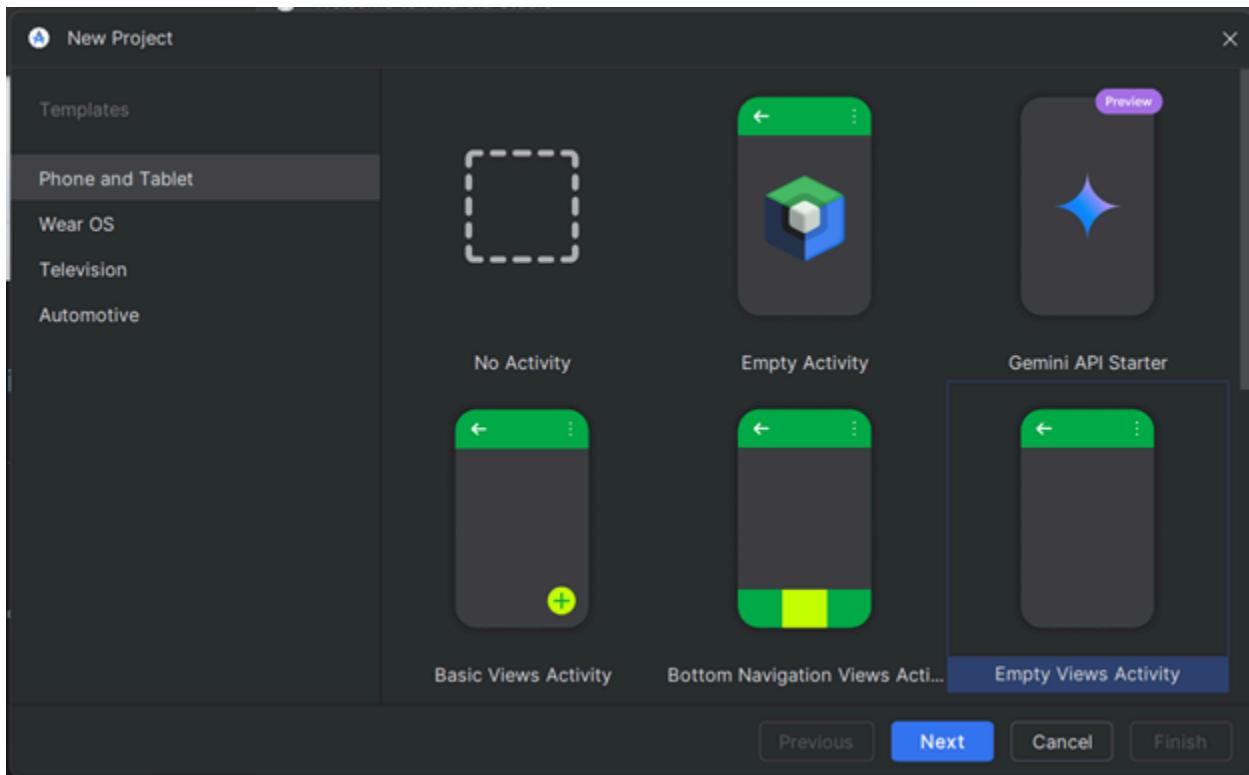


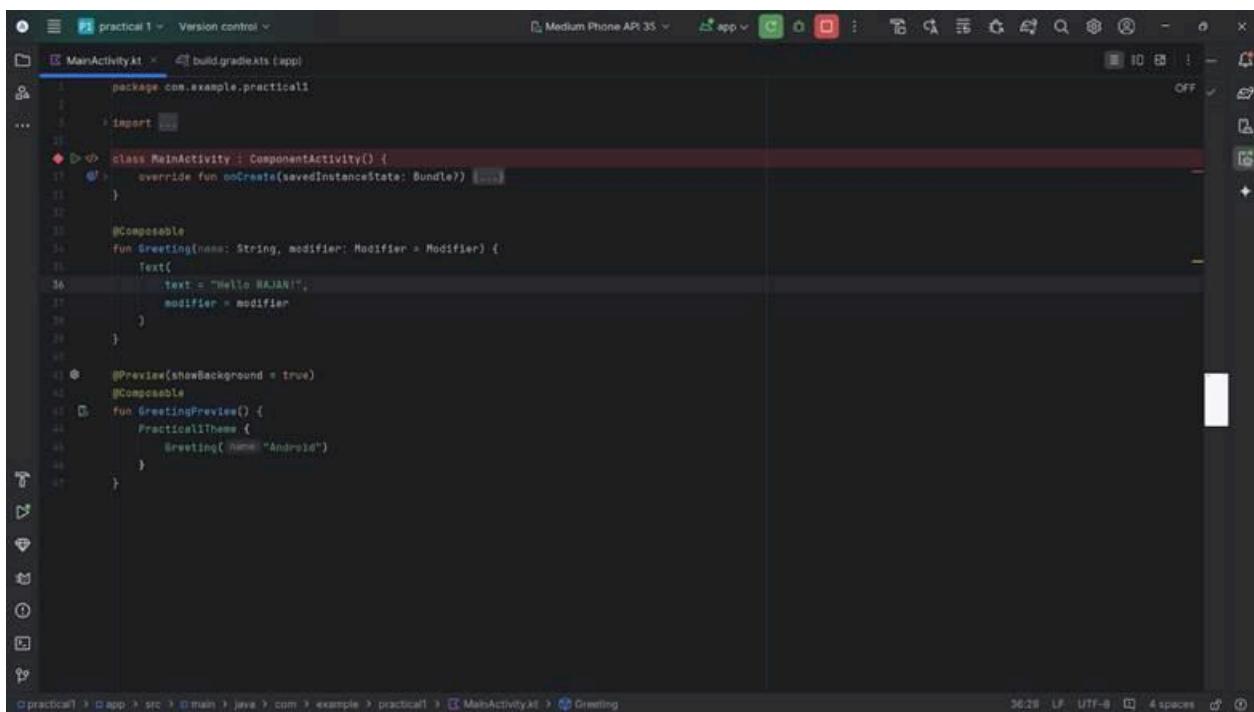
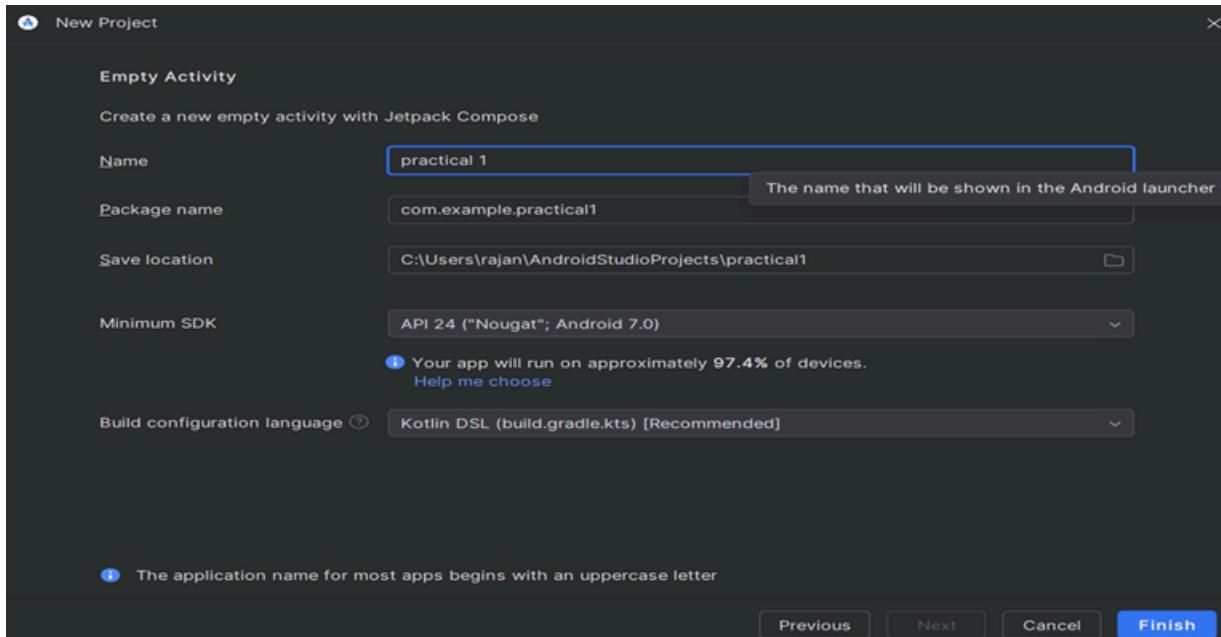


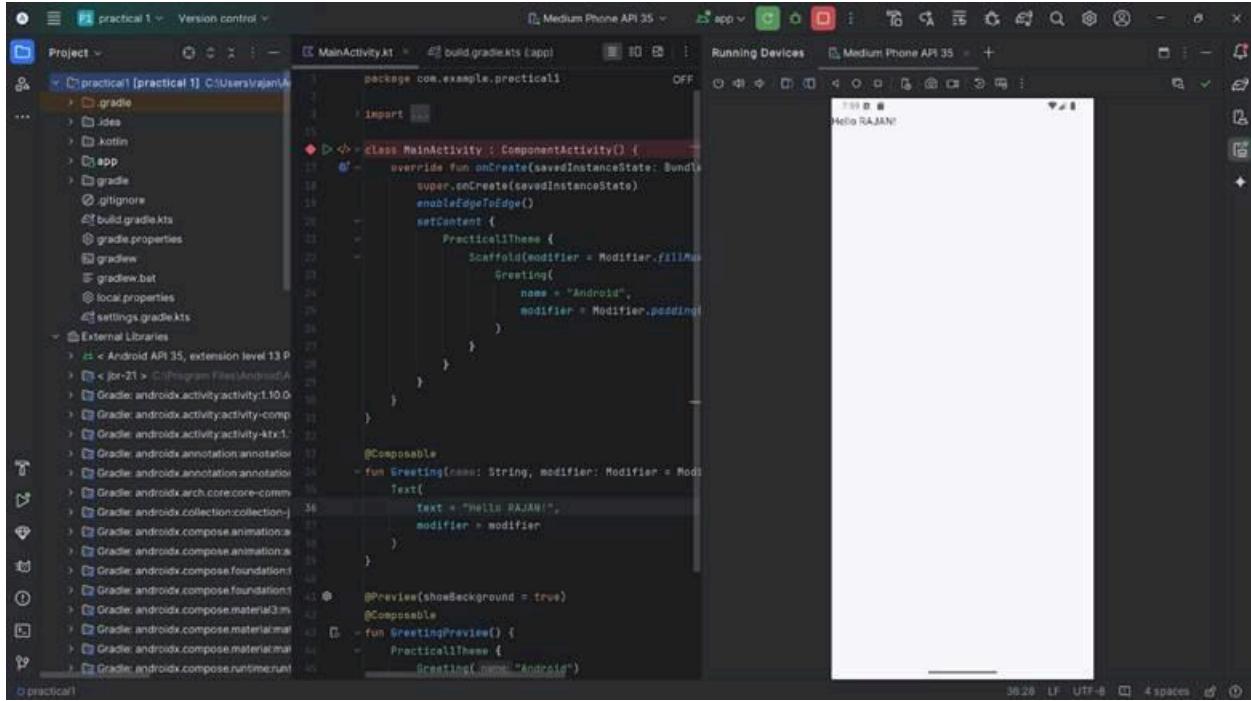
## Create a New Project:



## Select Empty View Activity







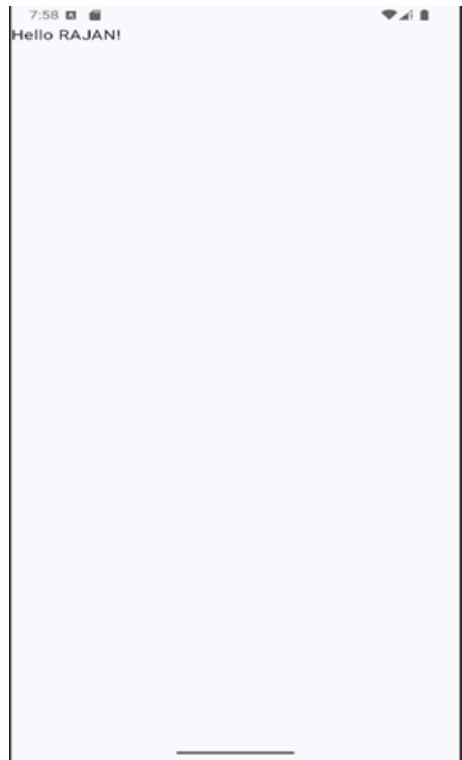
## Printing Hello World

### activity\_main.xml

```
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
        android:id="@+id/main"
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        tools:context=".MainActivity">

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Hello RAJAN!"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />
```

</androidx.constraintlayout.widget.ConstraintLayout>

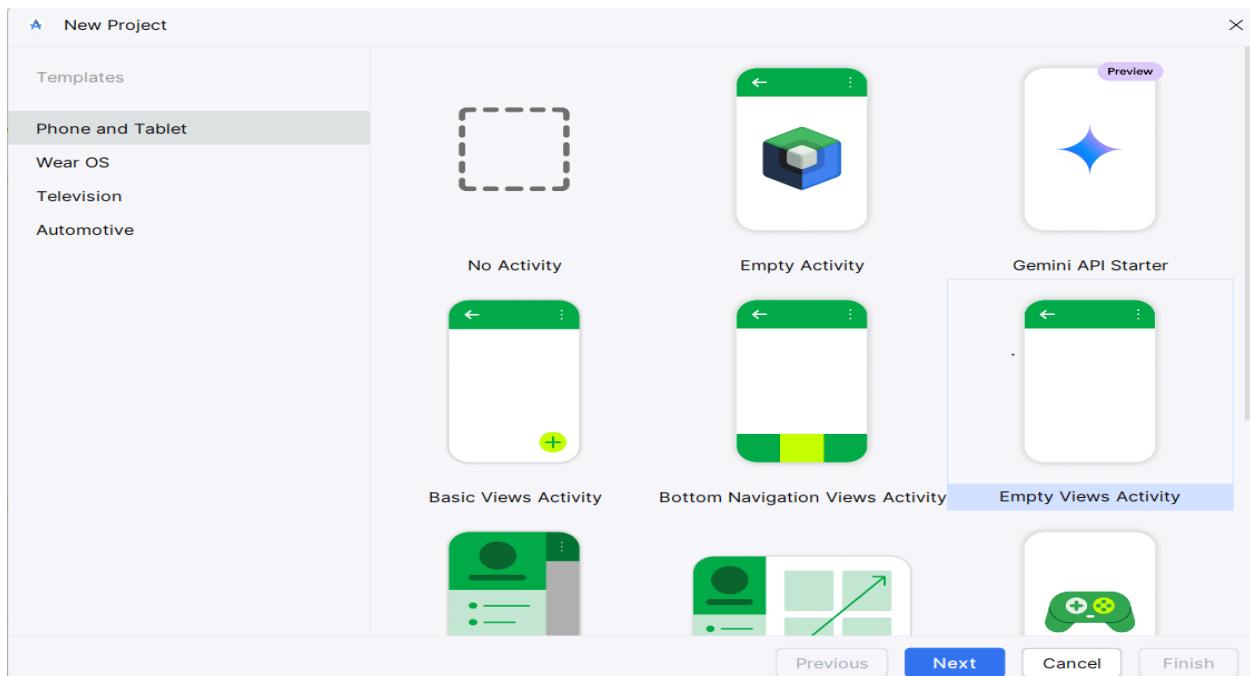


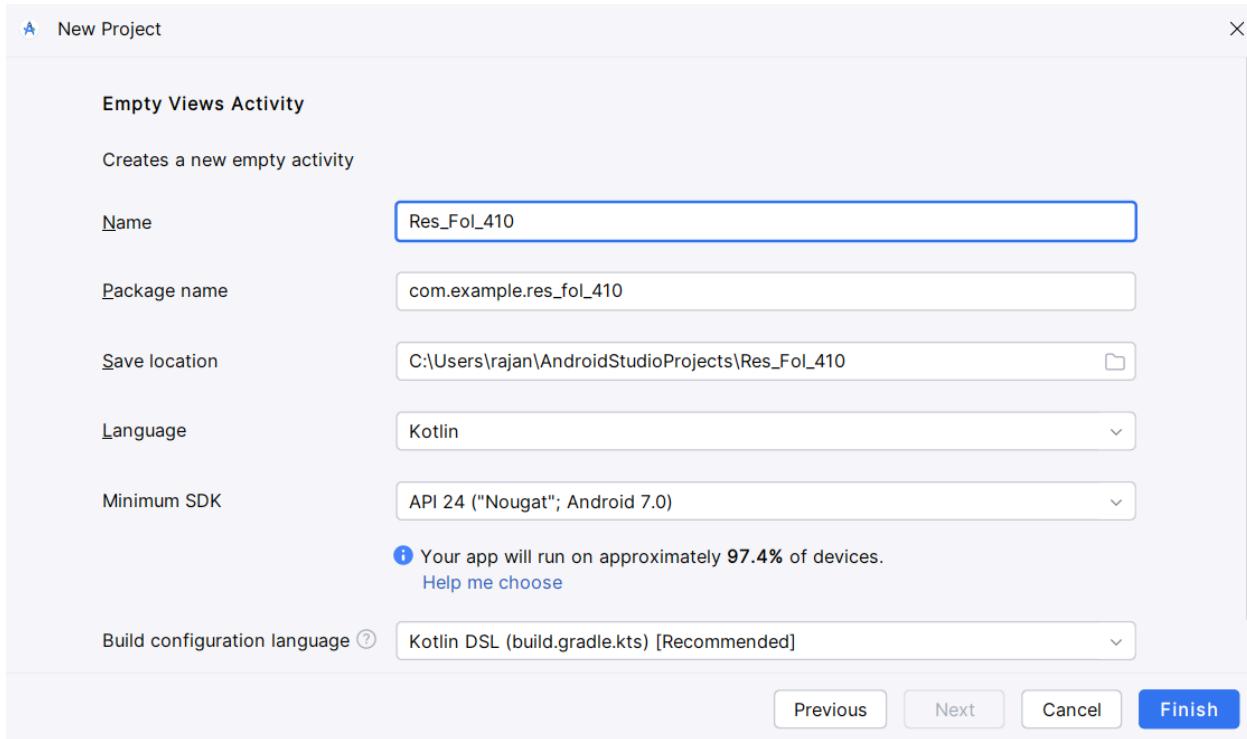
## Practical 2A: Res Folder

### Introduction:

In an Android Studio project, the res (resources) folder plays a vital role in storing non-code elements like images, layouts, and string values. These resources enhance the visual design, user experience, and localization of the application. This journal entry provides a detailed step-by-step explanation of the res folder and its subdirectories.

- activity\_main.xml
- strings.xml
- colors.xml

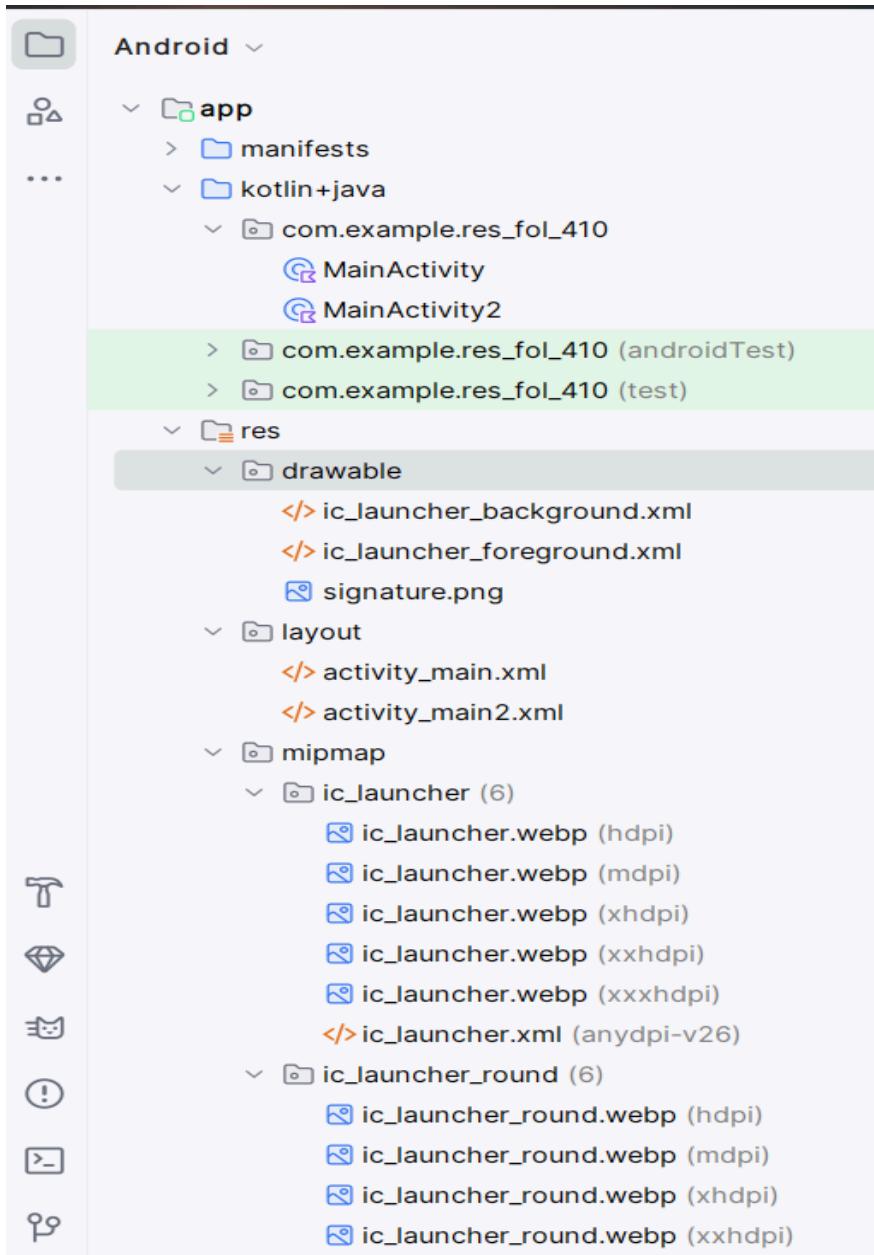




**Step-by-Step Explanation of the res Folder:** The res folder contains different subdirectories, each with a specific function. These subdirectories store images, XML layouts, menu options, and other essential components used in the Android app. Below is a breakdown of these subdirectories:

1. drawable/ – Images and Drawables - This folder stores image files (PNG, JPEG, SVG) and XML drawable resources. - It is used for icons, background images, and vector graphics. - Example Usage in XML:
  
2. layout/ – UI Layouts - Contains XML files that define the app's user interface. - Each screen (Activity/Fragment) has a corresponding layout file. - Example (activity\_main.xml)
  
3. mipmap/ – App Icons - Stores different resolutions of the app launcher icon. - Android selects the appropriate resolution for the device. - Common directories: - mipmap-mdpi/ (Medium Density) - mipmap-hdpi/ (High Density) - mipmap-xhdpi/ (Extra High Density) - mipmap-xxhdpi/ (Extra Extra High Density)
4. values/ – Resource Values This folder contains XML files that store various reusable values such as strings, colors, dimensions, and styles.
  - a) strings.xml – Text Values for Localization Stores text-based resources like app names, button texts, and messages. Example (strings.xml): Res Folder Practical Welcome to Android Development! Click Me
  - b) colors.xml –

Color Resources Defines color values used in the app. Example (colors.xml): #6200EE  
#03DAC5 #370707 #F46969 5. xml/ – Configuration Files - Stores XML files for application settings, network security, and preferences. - Example: Network security configurations, preference settings.



## Activity\_main.xml: -

```
<?xml version="1.0" encoding="utf-8"?>

<LinearLayout

    xmlns:android="http://schemas.android.com/apk/res/android"

    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical"
    android:gravity="center"
    android:padding="16dp"

    android:id="@+id/main">

    <TextView

        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:textSize="24sp"
        android:textStyle="bold"
        android:layout_gravity="center"
        android:padding="0dp"
        android:textColor="@color/textColor"
        android:text="@string/welcome_message"/>

    <TextView

        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:textSize="24sp"
```

```
    android:textStyle="bold"

    android:layout_gravity="center"

    android:padding="0dp"

    android:textColor="@color/textColor"

    android:text="PRAC 2A: Res Folder"/>

<TextView

    android:layout_width="wrap_content"

    android:layout_height="wrap_content"

    android:text="Hello, this is Linear Layout!"

    android:textSize="18sp"

    android:textColor="@android:color/black"

    android:layout_gravity="center"/>

<ImageView

    android:layout_width="100dp"

    android:layout_height="100dp"

    android:src="@drawable/signature"

    android:layout_gravity="center"/>

<Button

    android:layout_width="wrap_content"

    android:layout_height="wrap_content"

    android:text="Click Me"

    android:layout_marginTop="10dp"

    android:layout_gravity="center"/>
```

```
</LinearLayout>
```

### Strings.xml: -

```
<resources>

    <string name="app_name">Res Folder Practical</string>

    <string name="welcome_message">Welcome to Android
Development!</string>

    <string name="button_click">Click Me</string>

</resources>
```

### Colors.xml: -

```
<resources>

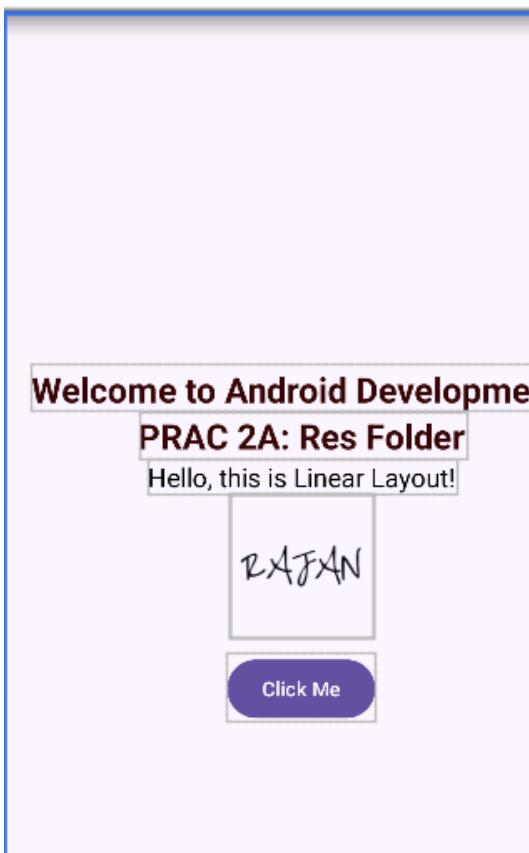
    <color name="primaryColor">#6200EE</color>

    <color name="secondaryColor">#03DAC5</color>

    <color name="textColor">#370707</color>

    <color name="backgroundColor">#F46969</color>

</resources>
```



## Practical 2B:Rainbow Example

### activity\_main.xml

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical">

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="rajan_410"
        android:textColor="@color/red"
        android:textSize="50sp" />

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="rajan_410"
        android:textColor="@color/blue"
        android:textSize="50sp" />

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="rajan_410"
        android:textColor="@color/green"
        android:textSize="50sp" />

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="rajan_410"
        android:textColor="@color/orange"
        android:textSize="50sp"

    />

    <TextView
```

```
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="rajan_410"
    android:textColor="@color/indigo"
    android:textSize="50sp" />

<TextView
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="rajan_410"
    android:textColor="@color/violet"
    android:textSize="50sp" />

<TextView
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="rajan_410"
    android:textColor="@color/yellow"
    android:textSize="50sp" />

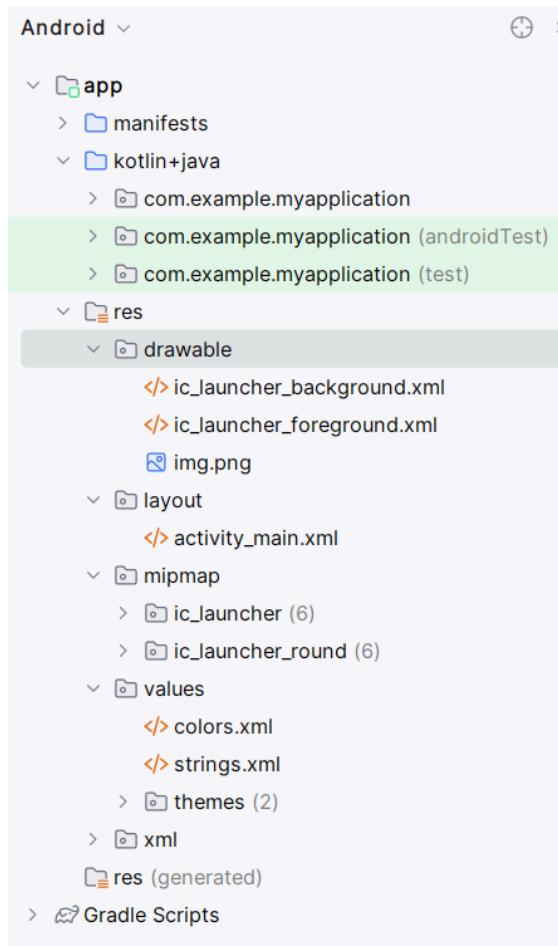
<ImageView
    android:layout_width="100dp"
    android:layout_height="100dp"
    android:src="@drawable/img" />

</LinearLayout>
```

**colors.xml**

```
<?xml version="1.0" encoding="utf-8"?>
<resources>
    <color name="red">#FA0000</color>
    <color name="orange">#FFA500</color>
    <color name="yellow">#FFDA00</color>
    <color name="green">#008000</color>
    <color name="blue">#1591EA</color>
    <color name="indigo">#560591</color>
    <color name="violet">#7F00FF</color>
</resources>
```

## Drawable:



**OUTPUT:**



**Activity\_main.xml:-**

```
<?xml version="1.0" encoding="utf-8"?>

<LinearLayout

    xmlns:android="http://schemas.android.com/apk/res/android"

    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical"
    android:gravity="center"

    >

    <TextView

        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="@string/app_name"
        android:textSize="30sp"

        />

    <TextView

        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="@string/prac3"
        android:textSize="30sp"

        />

    <TextView

        android:layout_width="wrap_content"
```

```
    android:layout_height="wrap_content"
    android:text="@string/first"
    android:textSize="30sp"
/>
<Button
    android:id="@+id	btn1"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="@string/btn"
    android:textSize="30sp"
/>
</LinearLayout>
```

## MainActivity.kt

```
package com.example.rajan_410

import android.content.Intent
import android.os.Bundle
import android.widget.Button
import androidx.activity.enableEdgeToEdge
import androidx.appcompat.app.AppCompatActivity
import androidx.core.view.ViewCompat
import androidx.core.view.WindowInsetsCompat
```

```
class MainActivity : AppCompatActivity() {

    override fun onCreate(savedInstanceState: Bundle?) {

        super.onCreate(savedInstanceState)
        enableEdgeToEdge()

        setContentView(R.layout.activity_main)

        val btn= findViewById<Button>(R.id.btn1)

        btn.setOnClickListener{

            val intent = Intent(this,Second_Activity::class.java)
            startActivity(intent)

        }

    }

}
```

### Activity\_second.xml

```
<?xml version="1.0" encoding="utf-8"?>

<LinearLayout

    xmlns:android="http://schemas.android.com/apk/res/android"

    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:gravity="center"
    android:orientation="vertical">
```

```
<TextView  
    android:layout_width="wrap_content"  
    android:layout_height="wrap_content"  
    android:text="@string/app_name"  
    android:textSize="30sp" />  
  
<TextView  
    android:layout_width="wrap_content"  
    android:layout_height="wrap_content"  
    android:text="@string/second"  
    android:textSize="30sp" />  
  
<Button  
    android:layout_width="wrap_content"  
    android:layout_height="wrap_content"  
    android:text="@string/btn"  
    android:textSize="30sp"  
    android:id="@+id/btn" />  
  
</LinearLayout>
```

## Second\_Activity.kt

```
package com.example.rajan_410

import android.content.Intent

import android.os.Bundle

import android.widget.Button

import androidx.activity.enableEdgeToEdge

import androidx.appcompat.app.AppCompatActivity

import androidx.core.view.ViewCompat

import androidx.core.view.WindowInsetsCompat


class Second_Activity : AppCompatActivity() {

    override fun onCreate(savedInstanceState: Bundle?) {

        super.onCreate(savedInstanceState)

        enableEdgeToEdge()

        setContentView(R.layout.activity_second)

        val btn = findViewById<Button>(R.id.btn)

        btn.setOnClickListener{

            val intent = Intent(this,MainActivity::class.java)

            startActivity(intent)

        }

    }

}
```

**strings.xml**

```
<resources>

    <string name="app_name">RAJAN BHAGAT</string>

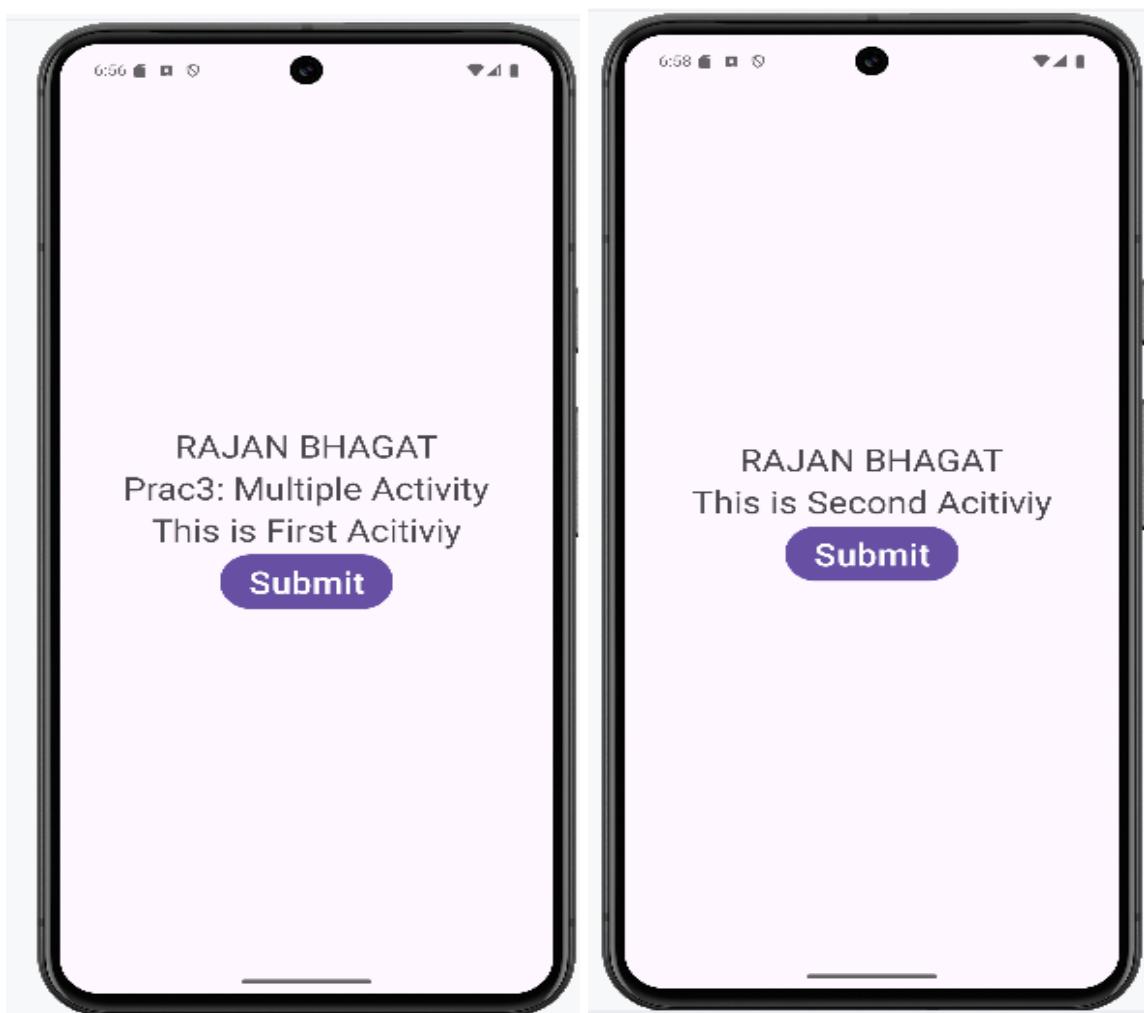
    <string name="prac3">Prac3: Multiple Activity</string>

    <string name="first">This is First Acitiviay </string>

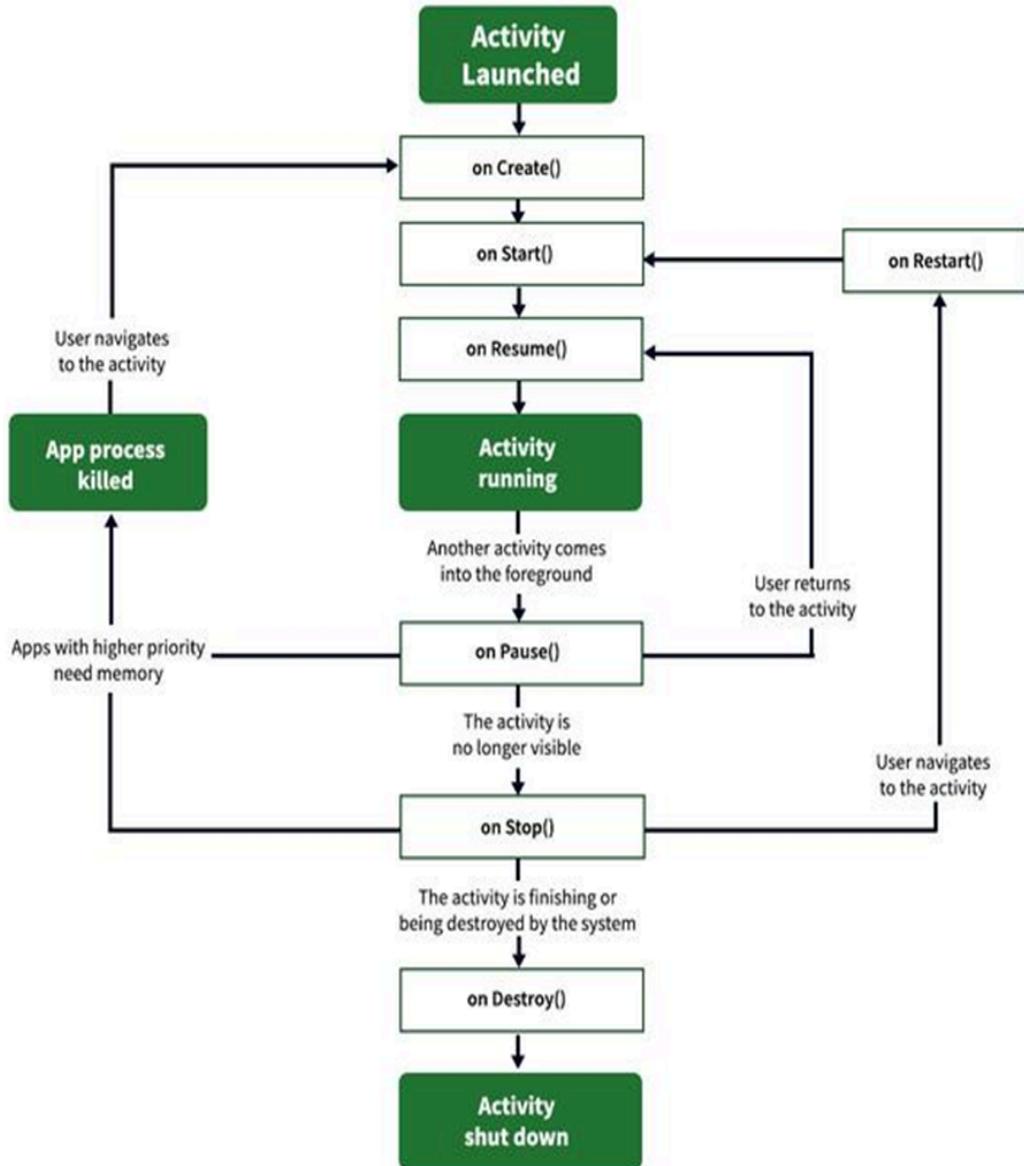
    <string name="second">This is Second Acitiviay </string>

    <string name="btn">Submit</string>

</resources>
```

**OUTPUT:**

## Practical 3B:Activity Lifecycle



## Activity Lifecycle in Android

**activity\_main.xml**

```
<?xml version="1.0" encoding="utf-8" ?>
<LinearLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:gravity="center"
    android:orientation="vertical"
    >
    <TextView
        android:id="@+id/txt1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="RAJAN - 410"
        android:textSize="30sp"
        android:textColor="@color/black"
        />
    <TextView
        android:id="@+id/txt2"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Prac3:Multiple Activities"
        android:textSize="25sp"
        android:textColor="@color/black"
        />
    <TextView
        android:id="@+id/txt3"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="THIS IS FIRST ACTIVITY"
        android:textSize="25sp"
        android:textColor="@color/black"
        />
    <Button
        android:id="@+id	btn1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:textSize="30sp"
        android:text="SUBMIT"
        />
</LinearLayout>
```

## MainActivity.kt

```
package com.example.pract3b

import android.content.Intent
import android.os.Bundle
import android.widget.Button
import androidx.activity.enableEdgeToEdge
import androidx.appcompat.app.AppCompatActivity

class MainActivity : AppCompatActivity() {
    override fun onCreate(savedInstanceState: Bundle?) {
        super.onCreate(savedInstanceState)
        enableEdgeToEdge()
        setContentView(R.layout.activity_main)

        val btn = findViewById<Button>(R.id.btn1)
        btn.setOnClickListener {
            val intent = Intent(this, MainActivity2::class.java)
            startActivity(intent) // Removed extra parentheses
        }
    }
}
```

## activity\_second.xml

```
<?xml version="1.0" encoding="utf-8" ?>
<LinearLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:gravity="center"
    android:orientation="vertical"
    >
    <TextView
        android:id="@+id/txt1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="RAJAN-410"
        android:textSize="30sp"
        android:textColor="@color/black"
```

```
    />
<TextView
    android:id="@+id/txt2"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Prac3:Multiple Activities"
    android:textSize="25sp"
    android:textColor="@color/black"
    />
<TextView
    android:id="@+id/txt3"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="THIS IS SECOND ACTIVITY"
    android:textSize="25sp"
    android:textColor="@color/black"
    />
<Button
    android:id="@+id	btn2"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:textSize="30sp"
    android:text="SUBMIT"
    />
</LinearLayout>
```

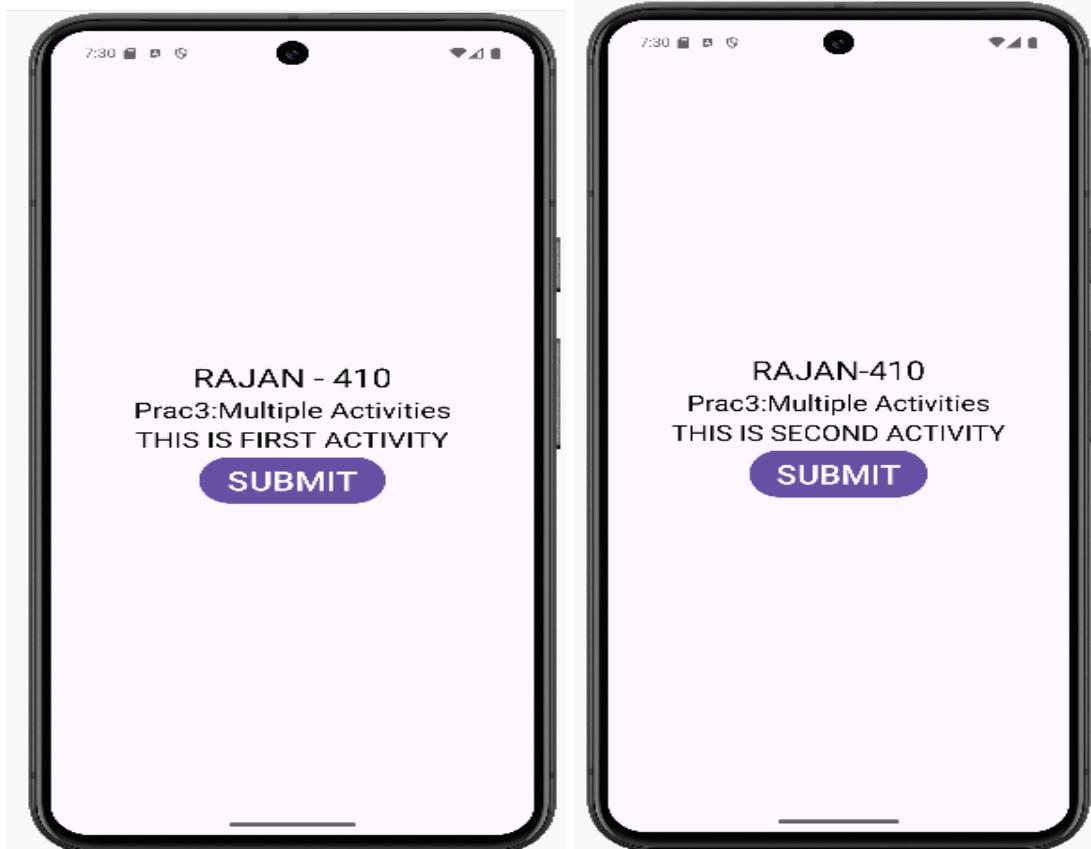
## MainActivity2.kt

```
package com.example.myapplication
import android.content.Intent
import android.os.Bundle
import android.widget.Button
import androidx.activity.enableEdgeToEdge
import androidx.appcompat.app.AppCompatActivity
import androidx.core.view.ViewCompat
import androidx.core.view.WindowInsetsCompat

class Second_Activity : AppCompatActivity() {
    override fun onCreate(savedInstanceState: Bundle?) {
        super.onCreate(savedInstanceState)
        enableEdgeToEdge()
        setContentView(R.layout.activity_second)
```

```
val btn = findViewById<Button>(R.id.btn)
btn.setOnClickListener{
    val intent = Intent(this,MainActivity::class.java)
    startActivity(intent)
}
}
```

## OUTPUT:



```
2025-03-05 19:20:39.330 1339-1428 EGL_emulation      com.example.pract3b
2025-03-05 19:20:39.572 1339-1339 Activity Lifecycle com.example.pract3b
2025-03-05 19:20:39.614 1339-1339 Activity Lifecycle com.example.pract3b
2025-03-05 19:20:39.619 1339-1339 Activity Lifecycle com.example.pract3b
2025-03-05 19:20:40.678 1339-1339 VRI[MainActivity] com.example.pract3b
2025-03-05 19:30:15.099 1339-1339 Activity Lifecycle com.example.pract3b
2025-03-05 19:30:15.413 1339-1428 EGL_emulation      com.example.pract3b
2025-03-05 19:30:16.354 1339-1339 Activity Lifecycle com.example.pract3b
2025-03-05 19:30:16.355 1339-1339 Activity Lifecycle com.example.pract3b
```

```
D app_time_stats: avg=264.26ms min=12.30ms max=1440.71ms co
D onCreateRAJAN
D onStartRAJAN
D onResumeRAJAN
D visibilityChanged oldVisibility=true newVisibility=false
D onPauseRAJAN
D app_time_stats: avg=47953.98ms min=8.30ms max=574668.31ms
D onStopRAJAN
D onDestroyRAJAN
```

## Practical 4A: Linear Layout

### Activity\_main.xml

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical"
    android:gravity="center"
    android:background="#000000"
    android:padding="20dp">
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Pract4: Linear Layout"
        android:textColor="#FFFFFF"
        android:textSize="22sp"
        android:textStyle="bold"
        android:layout_marginBottom="20dp"/>
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="RAJAN_410"
        android:textColor="#FFFFFF"
        android:textSize="22sp"
        android:textStyle="bold"
        android:layout_marginBottom="20dp"/>
    <ImageView
        android:layout_width="80dp"
        android:layout_height="80dp"
        android:src="@drawable/spotify_logo"
        android:contentDescription="Spotify Logo"
        android:layout_gravity="center"
        android:layout_marginBottom="50dp"/>
    <LinearLayout
        android:layout_width="match_parent"
```

```
    android:layout_height="wrap_content"
    android:orientation="horizontal"
    android:padding="15dp"
    android:gravity="center"
    android:layout_marginBottom="15dp">

    <ImageView
        android:layout_width="32dp"
        android:layout_height="32dp"
        android:src="@drawable/ic_google"
        android:contentDescription="Google Logo"
        android:layout_marginEnd="12dp"/>

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Continue with Google"
        android:textColor="#FFFFFF"
        android:textSize="18sp"
        android:textStyle="bold"/>
</LinearLayout>

<LinearLayout
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:orientation="horizontal"
    android:padding="15dp"
    android:gravity="center"
    android:layout_marginBottom="15dp">

    <ImageView
        android:layout_width="32dp"
        android:layout_height="32dp"
        android:src="@drawable/ic_facebook"
        android:contentDescription="Facebook Logo"
        android:layout_marginEnd="12dp"/>

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Continue with Facebook"
```

```
        android:textColor="#FFFFFF"
        android:textSize="18sp"
        android:textStyle="bold"/>
    </LinearLayout>

    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:orientation="horizontal"
        android:padding="15dp"
        android:gravity="center"
        android:layout_marginBottom="25dp">

        <ImageView
            android:layout_width="32dp"
            android:layout_height="32dp"
            android:src="@drawable/ic_apple"
            android:contentDescription="Apple Logo"
            android:layout_marginEnd="12dp"/>

        <TextView
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="Continue with Apple"
            android:textColor="#FFFFFF"
            android:textSize="18sp"
            android:textStyle="bold"/>
    </LinearLayout>

    <EditText
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:hint="Email or Username"
        android:background="@android:color/transparent"
        android:textColor="#FFFFFF"
        android:textColorHint="#B3B3B3"
        android:padding="12dp"
        android:layout_marginBottom="12dp"/>

    <EditText
        android:layout_width="match_parent"
```

```
    android:layout_height="wrap_content"
    android:hint="Password"
    android:inputType="textPassword"
    android:background="@android:color/transparent"
    android:textColor="#FFFFFF"
    android:textColorHint="#B3B3B3"
    android:padding="12dp"
    android:layout_marginBottom="12dp"/>

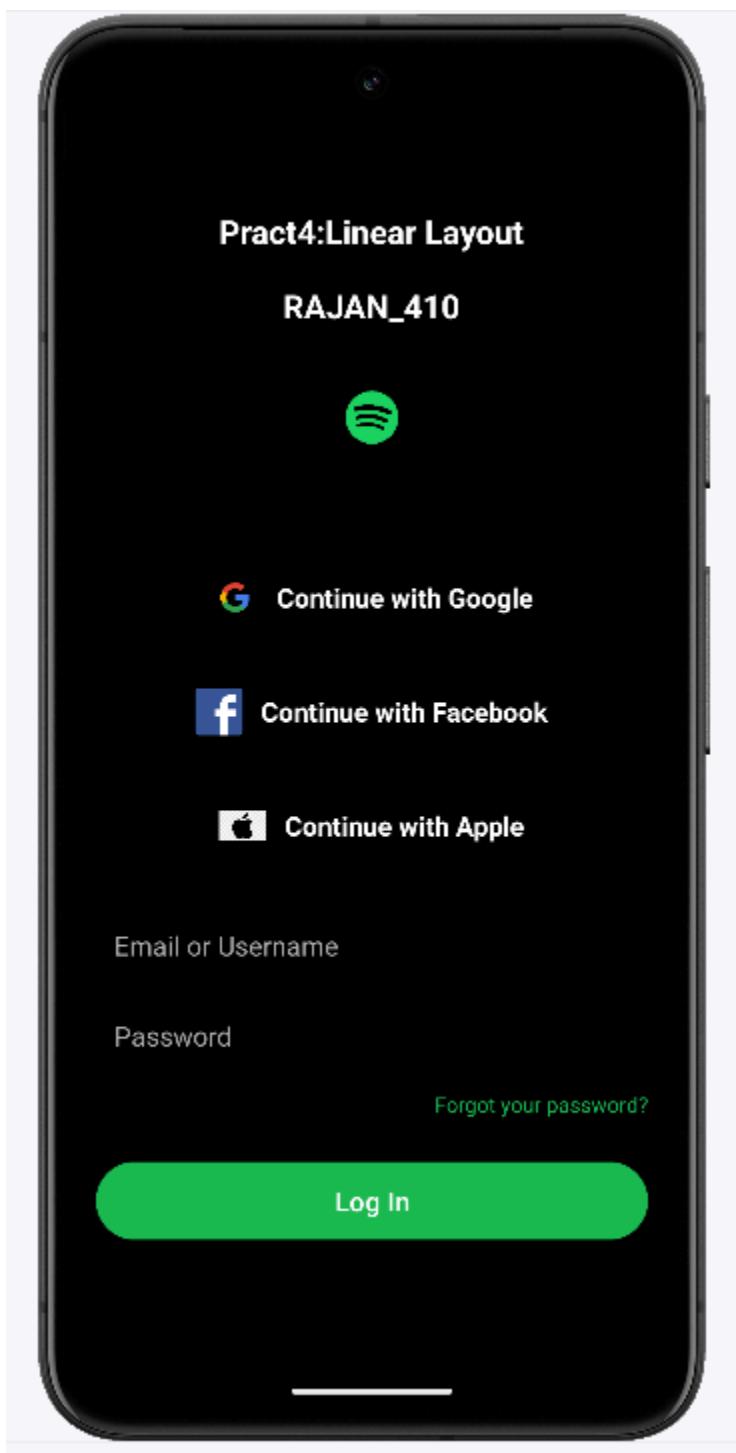


<TextView
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Forgot your password?"
    android:textColor="#1DB954"
    android:textSize="14sp"
    android:layout_gravity="end"
    android:layout_marginBottom="25dp"/>



<Button
    android:id="@+id	btn"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:text="Log In"
    android:backgroundTint="#1DB954"
    android:textColor="#FFFFFF"
    android:padding="14dp"
    android:textSize="18sp"/>
</LinearLayout>
```

## OUTPUT:



## Practical 4B: Nested Linear Layout

### Activity\_main.xml

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical"
    android:gravity="center"
    android:background="#000000"
    android:padding="20dp">
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Pract 4B: Nested LinearLayout"
        android:textColor="#FFFFFF"
        android:textSize="24sp"
        android:textStyle="bold"
        android:gravity="center"
        android:layout_marginBottom="20dp"/>
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="RAJAN_410"
        android:textColor="#FFFFFF"
        android:textSize="24sp"
        android:textStyle="bold"
        android:gravity="center"
        android:layout_marginBottom="20dp"/>
    <ImageView
        android:layout_width="100dp"
        android:layout_height="100dp"
        android:src="@drawable/spotify_logo"
        android:contentDescription="Spotify Logo"
        android:layout_marginBottom="40dp"/>
    <LinearLayout
        android:layout_width="match_parent"
```

```
    android:layout_height="wrap_content"
    android:orientation="vertical"
    android:gravity="center">

    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:orientation="horizontal"
        android:gravity="center"
        android:background="#4285F4"
        android:padding="12dp"
        android:layout_marginBottom="15dp"
        android:layout_marginHorizontal="30dp"
        android:radius="10dp">

        <ImageView
            android:layout_width="32dp"
            android:layout_height="32dp"
            android:src="@drawable/ic_google"
            android:contentDescription="Google Logo"
            android:layout_marginEnd="12dp"/>

        <TextView
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="Continue with Google"
            android:textColor="#FFFFFF"
            android:textSize="18sp"
            android:textStyle="bold"/>
    </LinearLayout>

    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:orientation="horizontal"
        android:gravity="center"
        android:background="#1877F2"
        android:padding="12dp"
        android:layout_marginBottom="15dp"
        android:layout_marginHorizontal="30dp"
        android:radius="10dp">
```

```
<ImageView
    android:layout_width="32dp"
    android:layout_height="32dp"
    android:src="@drawable/ic_facebook"
    android:contentDescription="Facebook Logo"
    android:layout_marginEnd="12dp"/>

<TextView
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Continue with Facebook"
    android:textColor="#FFFFFF"
    android:textSize="18sp"
    android:textStyle="bold"/>
</LinearLayout>

<LinearLayout
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:orientation="horizontal"
    android:gravity="center"
    android:background="#FFFFFF"
    android:padding="12dp"
    android:layout_marginBottom="25dp"
    android:layout_marginHorizontal="30dp"
    android:radius="10dp">

    <ImageView
        android:layout_width="32dp"
        android:layout_height="32dp"
        android:src="@drawable/ic_apple"
        android:contentDescription="Apple Logo"
        android:layout_marginEnd="12dp"/>

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Continue with Apple"
        android:textColor="#000000"
        android:textSize="18sp"
```

```
        android:textStyle="bold"/>
    </LinearLayout>
</LinearLayout>

<LinearLayout
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:orientation="vertical"
    android:padding="20dp"
    android:background="#1A1A1A"
    android:radius="10dp"
    android:layout_marginBottom="20dp"
    android:layout_marginHorizontal="20dp">

    <EditText
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:hint="Email or Username"
        android:background="@android:color/transparent"
        android:textColor="#FFFFFF"
        android:textColorHint="#B3B3B3"
        android:padding="12dp"
        android:layout_marginBottom="10dp"/>

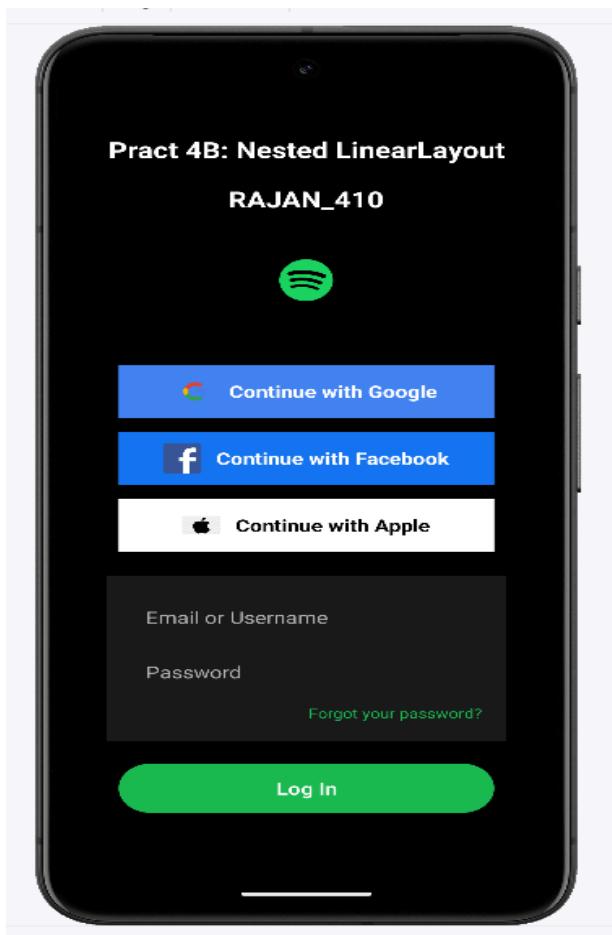
    <EditText
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:hint="Password"
        android:inputType="textPassword"
        android:background="@android:color/transparent"
        android:textColor="#FFFFFF"
        android:textColorHint="#B3B3B3"
        android:padding="12dp"
        android:layout_marginBottom="10dp"/>

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Forgot your password?"
        android:textColor="#1DB954"
        android:textSize="14sp"
```

```
        android:layout_gravity="end"/>
    </LinearLayout>

    <Button
        android:id="@+id/btn"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="Log In"
        android:backgroundTint="#1DB954"
        android:textColor="#FFFFFF"
        android:padding="14dp"
        android:textSize="18sp"
        android:layout_marginHorizontal="30dp"
        android:radius="10dp"/>
</LinearLayout>
```

## OUTPUT



## Practical 4C :Relative Layout

### Activity\_main.xml

```
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:background="#000000"
    android:padding="20dp">
    <TextView
        android:id="@+id/pract"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Pract 4C:Relative Layout"
        android:textColor="#FFFFFF"
        android:textSize="24sp"
        android:textStyle="bold"
        android:layout_centerHorizontal="true"
        android:layout_marginTop="10dp"/>

    <TextView
        android:id="@+id/appName"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="RAJAN_410"
        android:textColor="#FFFFFF"
        android:textSize="24sp"
        android:textStyle="bold"
        android:layout_centerHorizontal="true"
        android:layout_marginTop="40dp"/>

    <ImageView
        android:id="@+id/logo"
        android:layout_width="100dp"
        android:layout_height="100dp"
        android:src="@drawable/spotify_logo"
        android:contentDescription="Spotify Logo"
        android:layout_below="@+id/appName"
        android:layout_centerHorizontal="true"
```

```
    android:layout_marginTop="20dp"/>



<LinearLayout
    android:id="@+id/googleButton"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:orientation="horizontal"
    android:gravity="center"
    android:background="#4285F4"
    android:padding="12dp"
    android:layout_below="@+id/logo"
    android:layout_marginTop="40dp"
    android:layout_marginHorizontal="30dp"
    android:radius="10dp">

    <ImageView
        android:layout_width="32dp"
        android:layout_height="32dp"
        android:src="@drawable/ic_google"
        android:contentDescription="Google Logo"
        android:layout_marginEnd="12dp"/>

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Continue with Google"
        android:textColor="#FFFFFF"
        android:textSize="18sp"
        android:textStyle="bold"/>
</LinearLayout>

<LinearLayout
    android:id="@+id/facebookButton"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:orientation="horizontal"
    android:gravity="center"
    android:background="#1877F2"
    android:padding="12dp"
    android:layout_below="@+id/googleButton"
    android:layout_marginTop="15dp"
```

```
    android:layout_marginHorizontal="30dp"
    android:radius="10dp">

    <ImageView
        android:layout_width="32dp"
        android:layout_height="32dp"
        android:src="@drawable/ic_facebook"
        android:contentDescription="Facebook Logo"
        android:layout_marginEnd="12dp"/>

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Continue with Facebook"
        android:textColor="#FFFFFF"
        android:textSize="18sp"
        android:textStyle="bold"/>
</LinearLayout>

<LinearLayout
    android:id="@+id/appleButton"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:orientation="horizontal"
    android:gravity="center"
    android:background="#FFFFFF"
    android:padding="12dp"
    android:layout_below="@id/facebookButton"
    android:layout_marginTop="15dp"
    android:layout_marginHorizontal="30dp"
    android:radius="10dp">

    <ImageView
        android:layout_width="32dp"
        android:layout_height="32dp"
        android:src="@drawable/ic_apple"
        android:contentDescription="Apple Logo"
        android:layout_marginEnd="12dp"/>

    <TextView
        android:layout_width="wrap_content"
```

```
        android:layout_height="wrap_content"
        android:text="Continue with Apple"
        android:textColor="#000000"
        android:textSize="18sp"
        android:textStyle="bold"/>
    </LinearLayout>

<LinearLayout
    android:id="@+id/loginContainer"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:orientation="vertical"
    android:background="#1A1A1A"
    android:padding="20dp"
    android:layout_below="@id/appleButton"
    android:layout_marginTop="30dp"
    android:layout_marginHorizontal="20dp"
    android:radius="10dp">

    <EditText
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:hint="Email or Username"
        android:background="@android:color/transparent"
        android:textColor="#FFFFFF"
        android:textColorHint="#B3B3B3"
        android:padding="12dp"
        android:layout_marginBottom="10dp"/>

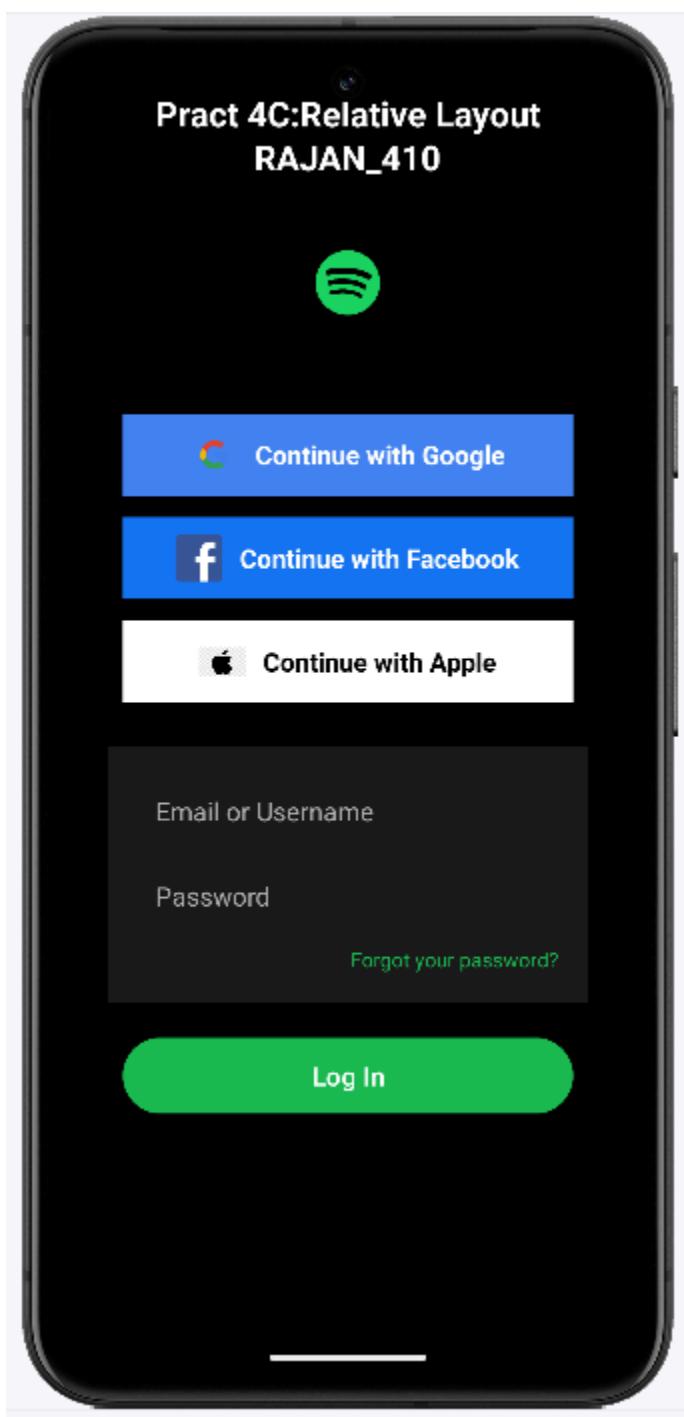
    <EditText
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:hint="Password"
        android:inputType="textPassword"
        android:background="@android:color/transparent"
        android:textColor="#FFFFFF"
        android:textColorHint="#B3B3B3"
        android:padding="12dp"
        android:layout_marginBottom="10dp"/>

    <TextView
```

```
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Forgot your password?"
        android:textColor="#1DB954"
        android:textSize="14sp"
        android:layout_gravity="end"/>
    </LinearLayout>

<Button
    android:id="@+id/loginButton"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:text="Log In"
    android:backgroundTint="#1DB954"
    android:textColor="#FFFFFF"
    android:padding="14dp"
    android:textSize="18sp"
    android:layout_below="@+id/loginContainer"
    android:layout_marginTop="20dp"
    android:layout_marginHorizontal="30dp"
    android:radius="10dp"/>
</RelativeLayout>
```

## OUTPUT:



## Practical 4D :Absolute Layout

### Activity\_main.xml

```
<?xml version="1.0" encoding="utf-8"?>
<AbsoluteLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:background="#000000"
    android:padding="20dp">
    <TextView
        android:id="@+id/appName"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Pract 4D:Absolute Layout"
        android:textColor="#FFFFFF"
        android:textSize="24sp"
        android:textStyle="bold"
        android:layout_x="50dp"
        android:layout_y="60dp"/>
    <TextView
        android:id="@+id/name"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="RAJAN_410"
        android:textColor="#FFFFFF"
        android:textSize="24sp"
        android:textStyle="bold"
        android:layout_x="140dp"
        android:layout_y="30dp"/>
    <ImageView
        android:id="@+id/logo"
        android:layout_width="100dp"
        android:layout_height="100dp"
        android:src="@drawable/spotify_logo"
        android:contentDescription="Spotify Logo"
        android:layout_x="130dp"
        android:layout_y="70dp"/>
```

```
<LinearLayout
    android:id="@+id/googleButton"
    android:layout_width="250dp"
    android:layout_height="50dp"
    android:orientation="horizontal"
    android:gravity="center"
    android:background="#4285F4"
    android:padding="12dp"
    android:layout_x="50dp"
    android:layout_y="200dp">

    <ImageView
        android:layout_width="32dp"
        android:layout_height="32dp"
        android:src="@drawable/ic_google"
        android:contentDescription="Google Logo"
        android:layout_marginEnd="12dp"/>

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Continue with Google"
        android:textColor="#FFFFFF"
        android:textSize="16sp"
        android:textStyle="bold"/>
</LinearLayout>

<LinearLayout
    android:id="@+id/facebookButton"
    android:layout_width="250dp"
    android:layout_height="50dp"
    android:orientation="horizontal"
    android:gravity="center"
    android:background="#1877F2"
    android:padding="12dp"
    android:layout_x="50dp"
    android:layout_y="270dp">

    <ImageView
        android:layout_width="32dp"
        android:layout_height="32dp"
```

```
        android:src="@drawable/ic_facebook"
        android:contentDescription="Facebook Logo"
        android:layout_marginEnd="12dp"/>

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Continue with Facebook"
        android:textColor="#FFFFFF"
        android:textSize="16sp"
        android:textStyle="bold"/>
</LinearLayout>

<LinearLayout
    android:id="@+id/appleButton"
    android:layout_width="250dp"
    android:layout_height="50dp"
    android:orientation="horizontal"
    android:gravity="center"
    android:background="#FFFFFF"
    android:padding="12dp"
    android:layout_x="50dp"
    android:layout_y="340dp">

    <ImageView
        android:layout_width="32dp"
        android:layout_height="32dp"
        android:src="@drawable/ic_apple"
        android:contentDescription="Apple Logo"
        android:layout_marginEnd="12dp"/>

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Continue with Apple"
        android:textColor="#000000"
        android:textSize="16sp"
        android:textStyle="bold"/>
</LinearLayout>

<EditText
```

```
    android:layout_width="250dp"
    android:layout_height="wrap_content"
    android:hint="Email or Username"
    android:background="#1A1A1A"
    android:textColor="#FFFFFF"
    android:textColorHint="#B3B3B3"
    android:padding="12dp"
    android:layout_x="50dp"
    android:layout_y="420dp"/>

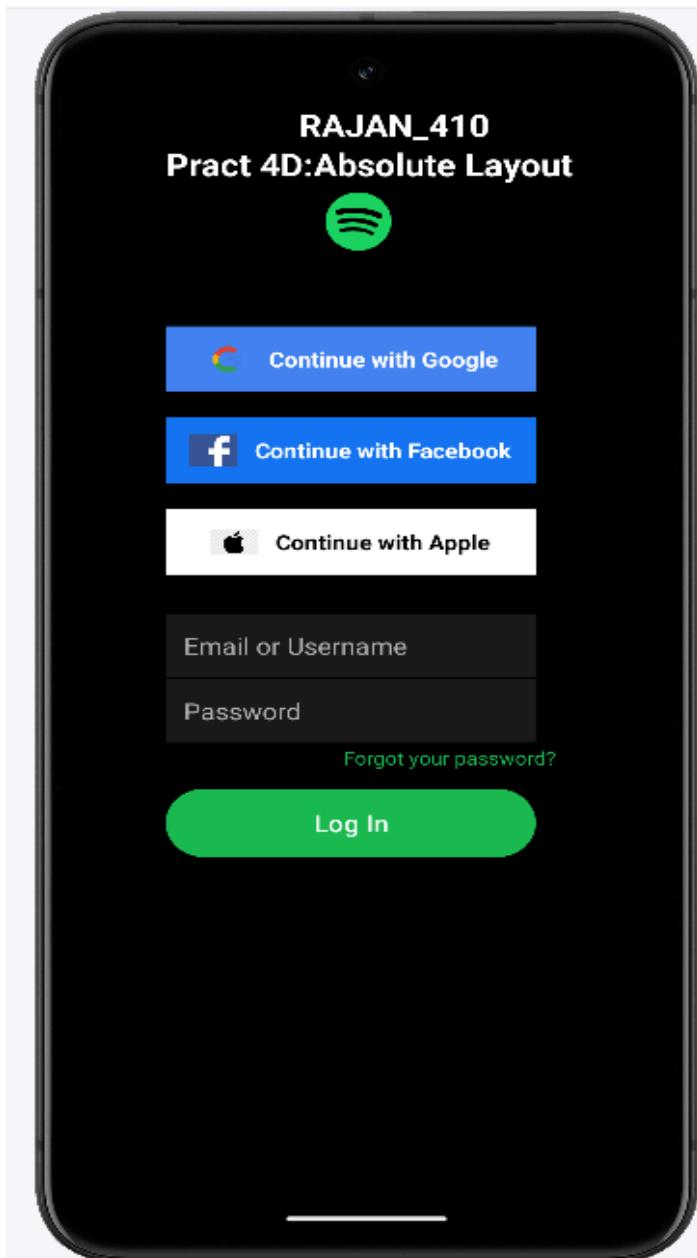
<EditText
    android:layout_width="250dp"
    android:layout_height="wrap_content"
    android:hint="Password"
    android:inputType="textPassword"
    android:background="#1A1A1A"
    android:textColor="#FFFFFF"
    android:textColorHint="#B3B3B3"
    android:padding="12dp"
    android:layout_x="50dp"
    android:layout_y="470dp"/>

<TextView
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Forgot your password?"
    android:textColor="#1DB954"
    android:textSize="14sp"
    android:layout_x="170dp"
    android:layout_y="520dp"/>

<Button
    android:id="@+id/loginButton"
    android:layout_width="250dp"
    android:layout_height="wrap_content"
    android:text="Log In"
    android:backgroundTint="#1DB954"
    android:textColor="#FFFFFF"
    android:padding="14dp"
    android:textSize="18sp"
    android:layout_x="50dp"
```

```
    android:layout_y="550dp"/>/  
</AbsoluteLayout>
```

## OUTPUT:



## Practical 4E :Constraint Layout

### Activity\_main.xml

```
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        xmlns:app="http://schemas.android.com/apk/res-auto"
        android:background="#000000"
        android:padding="20dp">

    <TextView
        android:id="@+id/appName"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="RAJAN_410"
        android:textColor="#FFFFFF"
        android:textSize="24sp"
        android:textStyle="bold"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintBottom_toTopOf="@+id/logo"
        android:layout_marginBottom="20dp"/>

    <ImageView
        android:id="@+id/logo"
        android:layout_width="100dp"
        android:layout_height="100dp"
        android:src="@drawable/spotify_logo"
        android:contentDescription="Spotify Logo"
        app:layout_constraintTop_toBottomOf="@+id/appName"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        android:layout_marginBottom="30dp"/>

    <LinearLayout
        android:id="@+id/googleButton"
        android:layout_width="0dp"
```

```
    android:layout_height="50dp"
    android:orientation="horizontal"
    android:gravity="center"
    android:background="#4285F4"
    android:padding="12dp"
    app:layout_constraintTop_toBottomOf="@+id/googleButton"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    android:layout_marginBottom="15dp">

    <ImageView
        android:layout_width="32dp"
        android:layout_height="32dp"
        android:src="@drawable/ic_google"
        android:contentDescription="Google Logo"
        android:layout_marginEnd="12dp"/>

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Continue with Google"
        android:textColor="#FFFFFF"
        android:textSize="16sp"
        android:textStyle="bold"/>
</LinearLayout>

<LinearLayout
    android:id="@+id/facebookButton"
    android:layout_width="0dp"
    android:layout_height="50dp"
    android:orientation="horizontal"
    android:gravity="center"
    android:background="#1877F2"
    android:padding="12dp"
    app:layout_constraintTop_toBottomOf="@+id/googleButton"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    android:layout_marginBottom="15dp">

    <ImageView
        android:layout_width="32dp"
```

```
        android:layout_height="32dp"
        android:src="@drawable/ic_facebook"
        android:contentDescription="Facebook Logo"
        android:layout_marginEnd="12dp"/>

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Continue with Facebook"
        android:textColor="#FFFFFF"
        android:textSize="16sp"
        android:textStyle="bold"/>
</LinearLayout>

<LinearLayout
    android:id="@+id/appleButton"
    android:layout_width="0dp"
    android:layout_height="50dp"
    android:orientation="horizontal"
    android:gravity="center"
    android:background="#FFFFFF"
    android:padding="12dp"
    app:layout_constraintTop_toBottomOf="@id/facebookButton"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    android:layout_marginBottom="25dp">

    <ImageView
        android:layout_width="32dp"
        android:layout_height="32dp"
        android:src="@drawable/ic_apple"
        android:contentDescription="Apple Logo"
        android:layout_marginEnd="12dp"/>

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Continue with Apple"
        android:textColor="#000000"
        android:textSize="16sp"
        android:textStyle="bold"/>
```

```
</LinearLayout>

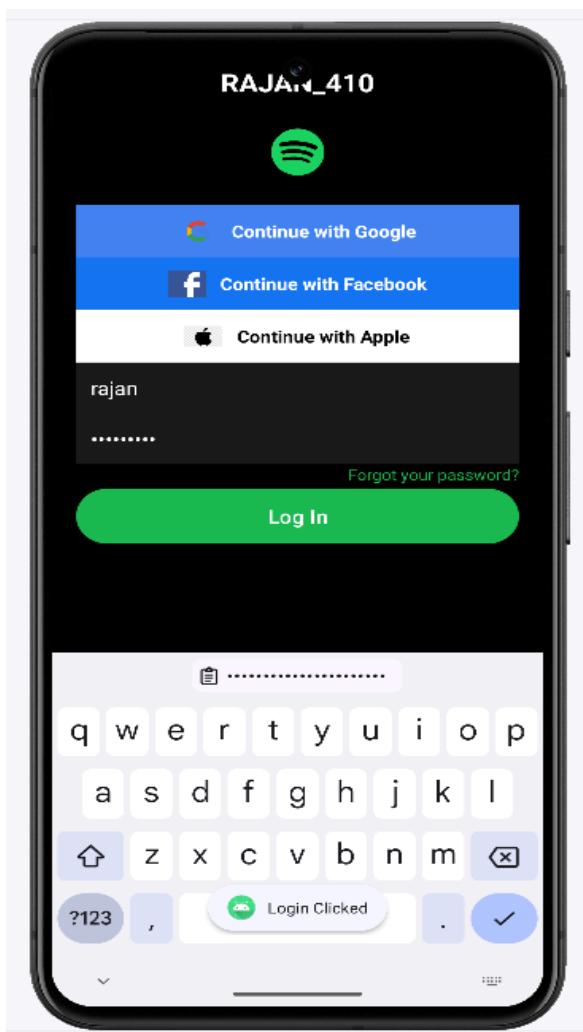
<EditText
    android:id="@+id/emailInput"
    android:layout_width="0dp"
    android:layout_height="wrap_content"
    android:hint="Email or Username"
    android:background="#1A1A1A"
    android:textColor="#FFFFFF"
    android:textColorHint="#B3B3B3"
    android:padding="12dp"
    app:layout_constraintTop_toBottomOf="@+id/appleButton"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    android:layout_marginBottom="12dp"/>

<EditText
    android:id="@+id/passwordInput"
    android:layout_width="0dp"
    android:layout_height="wrap_content"
    android:hint="Password"
    android:inputType="textPassword"
    android:background="#1A1A1A"
    android:textColor="#FFFFFF"
    android:textColorHint="#B3B3B3"
    android:padding="12dp"
    app:layout_constraintTop_toBottomOf="@+id/emailInput"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    android:layout_marginBottom="12dp"/>

<TextView
    android:id="@+id/forgotPassword"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Forgot your password?"
    android:textColor="#1DB954"
    android:textSize="14sp"
    app:layout_constraintTop_toBottomOf="@+id/passwordInput"
    app:layout_constraintEnd_toEndOf="parent"
    android:layout_marginBottom="25dp"/>
```

```
<Button  
    android:id="@+id/loginButton"  
    android:layout_width="0dp"  
    android:layout_height="wrap_content"  
    android:text="Log In"  
    android:backgroundTint="#1DB954"  
    android:textColor="#FFFFFF"  
    android:padding="14dp"  
    android:textSize="18sp"  
    app:layout_constraintTop_toBottomOf="@+id/forgotPassword"  
    app:layout_constraintStart_toStartOf="parent"  
    app:layout_constraintEnd_toEndOf="parent"/>/  
</androidx.constraintlayout.widget.ConstraintLayout>
```

## Output:



## Practical 5: Programming UI Elements

### Activity\_main.xml :

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_height="match_parent"
    android:layout_width="match_parent"
    android:orientation="vertical"
    android:gravity="center"
    android:layout_marginRight="10dp"
    android:layout_marginLeft="10dp"
    android:id="@+id/main">
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="RAJAN BHAGAT PRACT 5"
        android:textStyle="bold"
        android:textSize="22sp" />
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Feedback Activity"
        android:textStyle="bold"
        android:textSize="22sp" />
    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="63dp"
        android:orientation="horizontal">
        <TextView
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="Name :"
            android:textStyle="bold"
            android:textSize="20sp"/>
        <EditText
            android:id="@+id/editname"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:hint="Enter your name" />
    
```

```
        android:textStyle="bold"
        android:textSize="20sp"/>
    </LinearLayout>

    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="63dp"
        android:orientation="horizontal">
        <TextView
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="Course :"
            android:textStyle="bold"
            android:textSize="20sp"/>
        <EditText
            android:id="@+id/editcourse"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:hint="Enter Course name"
            android:textStyle="bold"
            android:textSize="20sp"/>
    </LinearLayout>
    <Button
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="Submit"
        android:textSize="20sp"
        android:id="@+id/btn_Submit"/>
    <TextView
        android:id="@+id/txt1"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:textSize="20sp"
        android:textAlignment="center"/>

    <RatingBar
        android:id="@+id/rating"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:numStars="5"
        android:stepSize="1.0"
```

```
    android:rating="0"/>
<Button
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:text="Get Rating"
    android:textSize="20sp"
    android:id="@+id/btn_rating"/>
<TextView
    android:layout_width="match_parent"
    android:textAlignment="center"
    android:layout_height="wrap_content"
    android:text="Click on Below Toggle Button"
    android:textStyle="bold"
    android:textSize="20sp"/>
<ToggleButton
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:id="@+id/togglebutton"/>
<LinearLayout
    android:layout_marginTop="20dp"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:orientation="horizontal"
    >
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="match_parent"
        android:text="Switch is "
        android:textStyle="bold"
        android:textSize="20sp"/>
    <Switch
        android:layout_marginLeft="230dp"
        android:layout_width="wrap_content"
        android:layout_height="match_parent"
        android:id="@+id/swichtoggle"/>
</LinearLayout>

<SeekBar
    android:id="@+id/seek"
    android:layout_width="match_parent"
```

```
    android:layout_height="30dp"
    android:layout_marginTop="20dp"  />
</LinearLayout>
```

## MainActivity.kt

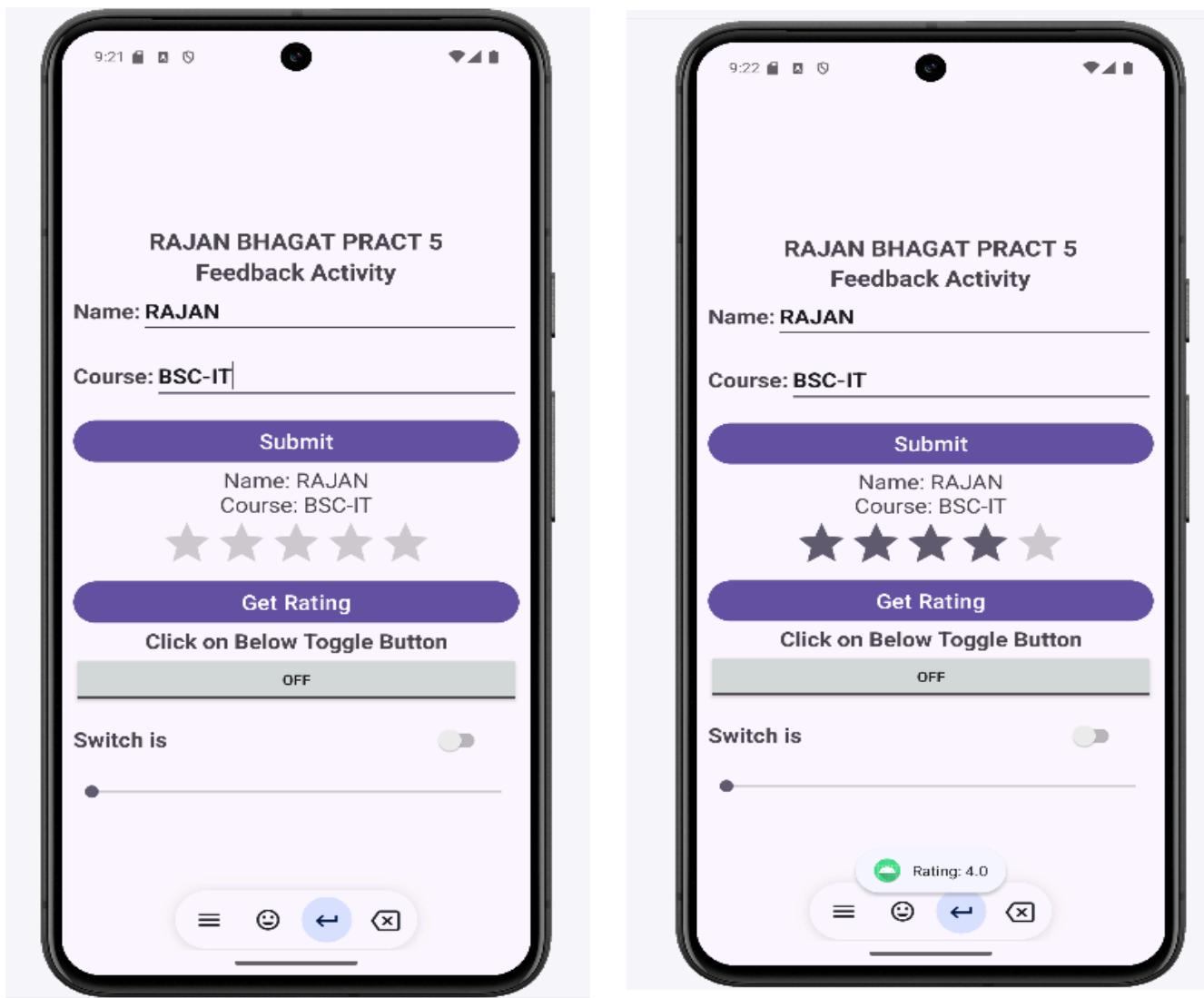
```
package com.example.prac_5a
import android.os.Bundle
import android.widget.*
import androidx.activity.enableEdgeToEdge
import androidx.appcompat.app.AppCompatActivity
import androidx.core.view.ViewCompat
import androidx.core.view.WindowInsetsCompat
class MainActivity : AppCompatActivity() {
    override fun onCreate(savedInstanceState: Bundle?) {
        super.onCreate(savedInstanceState)
        enableEdgeToEdge()
        setContentView(R.layout.activity_main)
        val submitButton: Button = findViewById(R.id.btn_Submit)
        val getRatingButton: Button =
            findViewById(R.id.btn_rating)
        val editTextName: EditText = findViewById(R.id.editname)
        val editTextCourse: EditText =
            findViewById(R.id.editcourse)
        val textView: TextView = findViewById(R.id.txt1)
        val ratingBar: RatingBar = findViewById(R.id.rating)
        val toggleButton: ToggleButton =
            findViewById(R.id.togglebutton)
        val switchToggle: Switch =
            findViewById(R.id.switchtoggle)
        val seekBar: SeekBar = findViewById(R.id.seek)
        submitButton.setOnClickListener {
            val name = editTextName.text.toString().trim()
            val course = editTextCourse.text.toString().trim()
            if (name.isEmpty() || course.isEmpty()) {
                Toast.makeText(this, "Please enter both Name and
Course", Toast.LENGTH_SHORT).show()
            } else {
                textView.text = "Name: $name\nCourse: $course"
            }
        }
    }
}
```

```
getRatingButton.setOnClickListener {
    val ratingValue = ratingBar.rating
    Toast.makeText(this, "Rating: $ratingValue",
Toast.LENGTH_LONG).show()
}
toggleButton.setOnCheckedChangeListener { _, isChecked ->
    val msg = "Toggle Button is " + if (isChecked) "ON"
else "OFF"
    Toast.makeText(this, msg, Toast.LENGTH_SHORT).show()
}
switchToggle.setOnCheckedChangeListener { _, isChecked ->
    val msg = "Switch is " + if (isChecked) "ON" else
"OFF"
    Toast.makeText(this, msg, Toast.LENGTH_SHORT).show()
}
seekBar.setOnSeekBarChangeListener(object :
SeekBar.OnSeekBarChangeListener {
    override fun onProgressChanged(seekBar: SeekBar?,
progress: Int, fromUser: Boolean) {
    }

    override fun onStartTrackingTouch(seekBar: SeekBar?) {
    }

    override fun onStopTrackingTouch(seekBar: SeekBar?) {
        Toast.makeText(this@MainActivity, "Progress:
${seekBar?.progress}%", Toast.LENGTH_SHORT).show()
    }
})

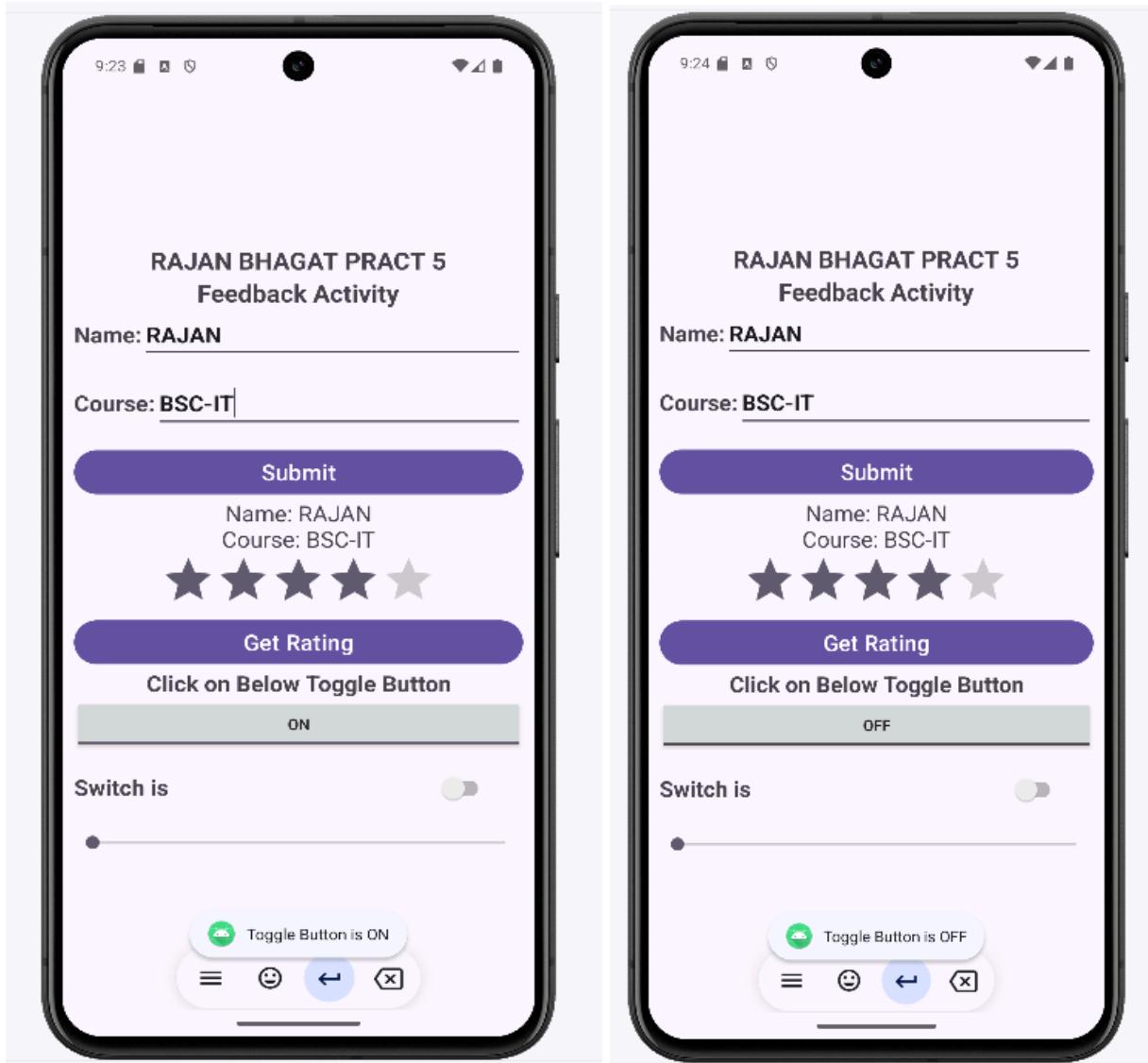
ViewCompat.setOnApplyWindowInsetsListener(findViewById(R.id.main
)) { v, insets ->
    val systemBars =
insets.getInsets(WindowInsetsCompat.Type.systemBars())
    v.setPadding(systemBars.left, systemBars.top,
systemBars.right, systemBars.bottom)
    insets
}
}
```

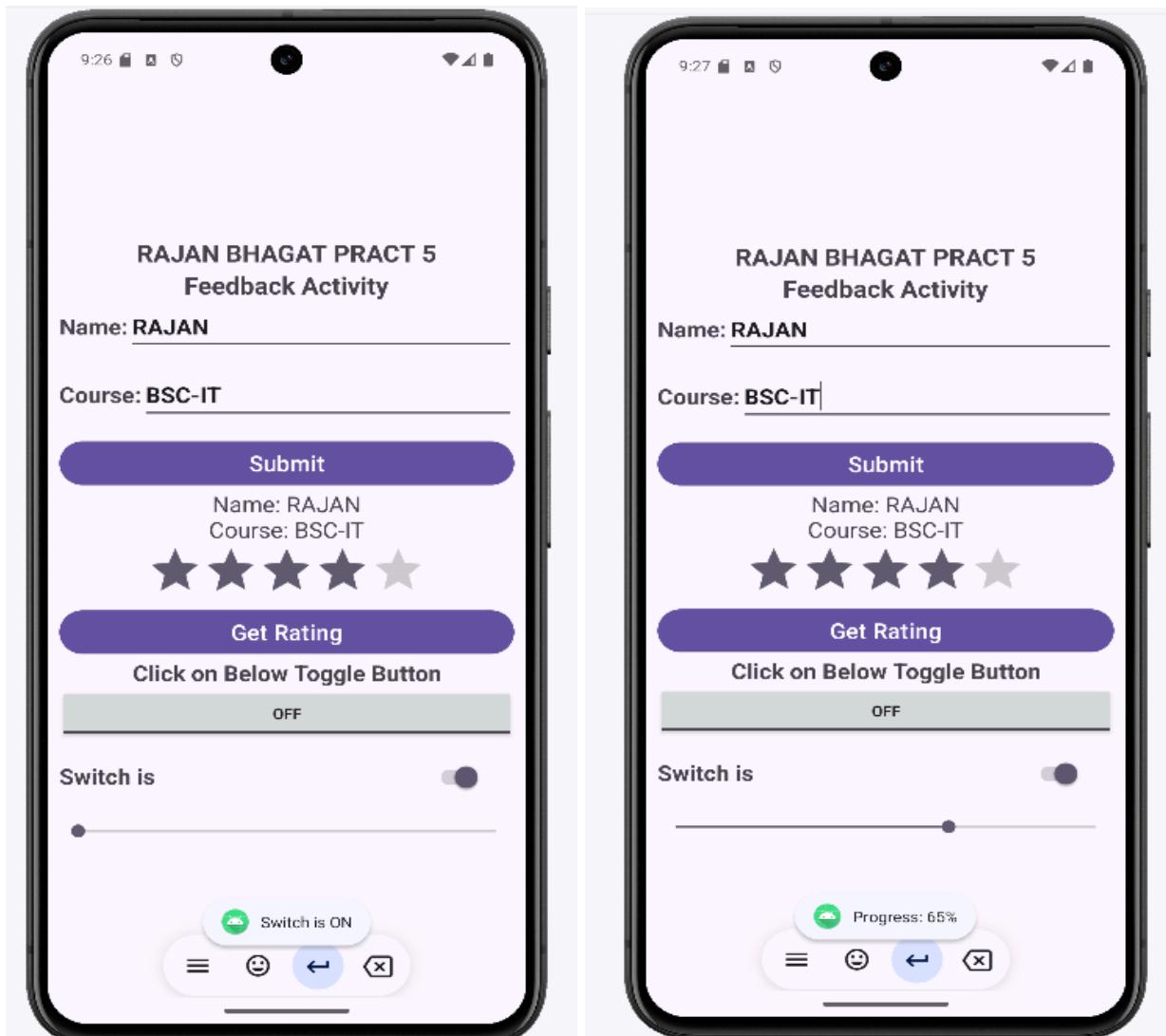
**OUTPUT:**

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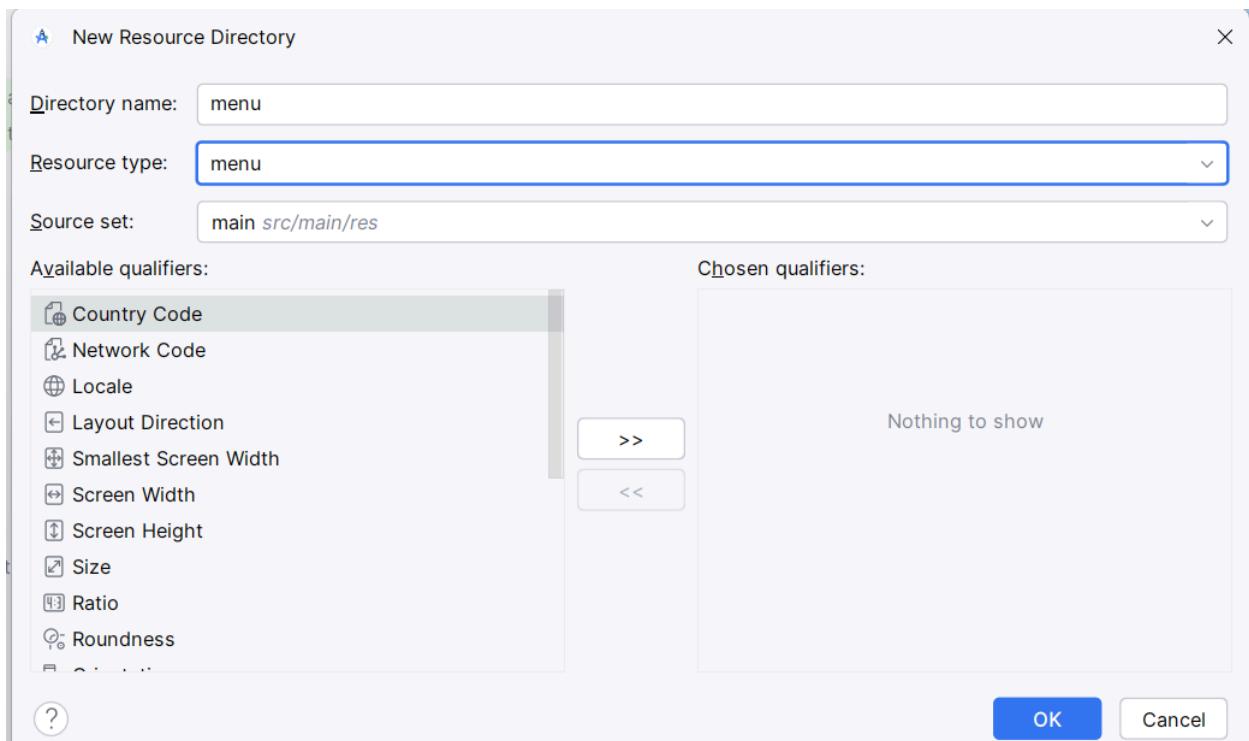
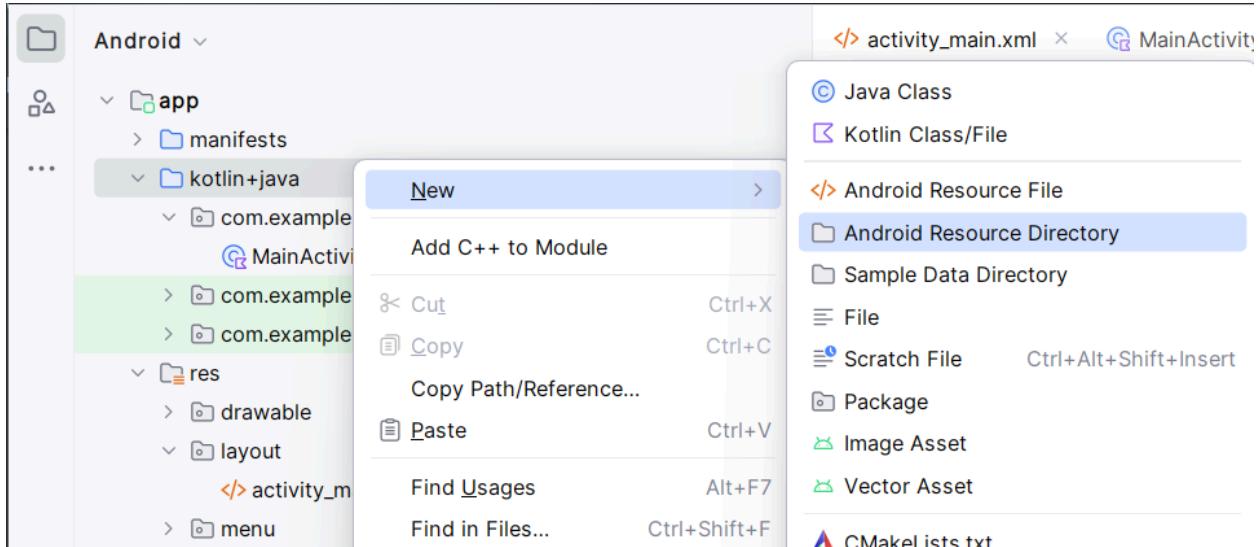
## Practical 6A: Options Menu

### activity\_main.xml

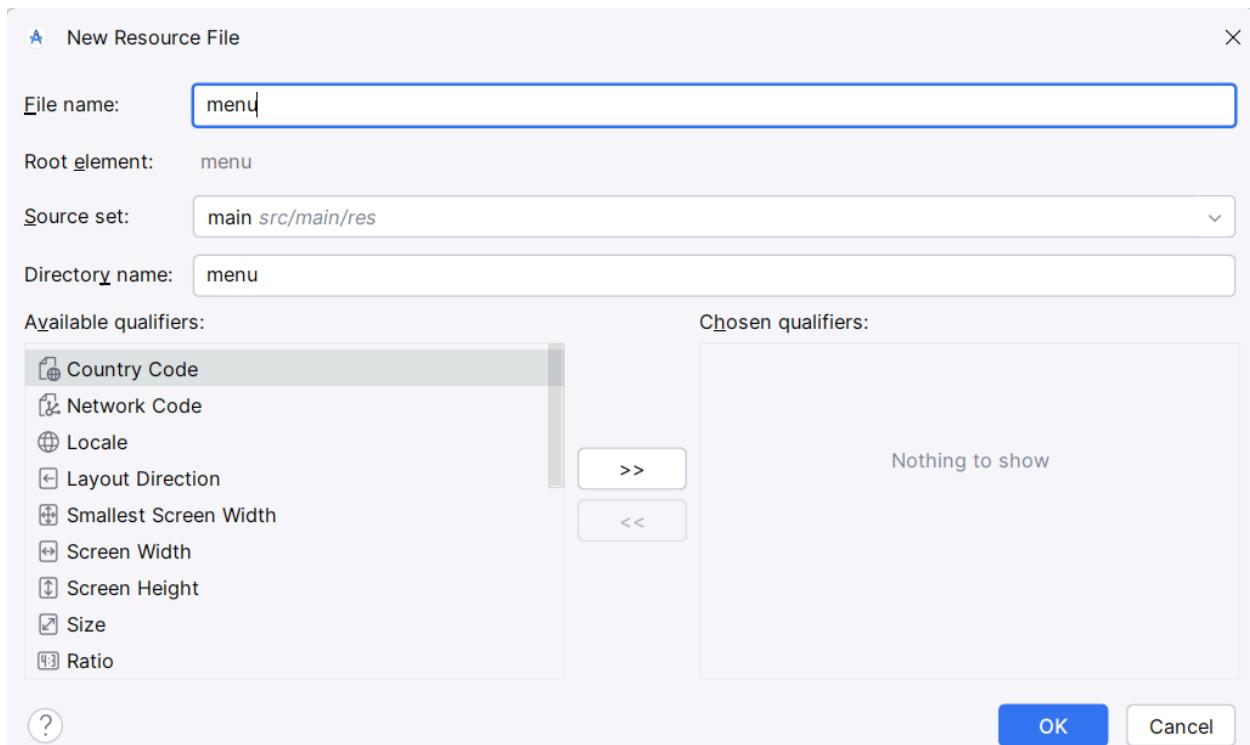
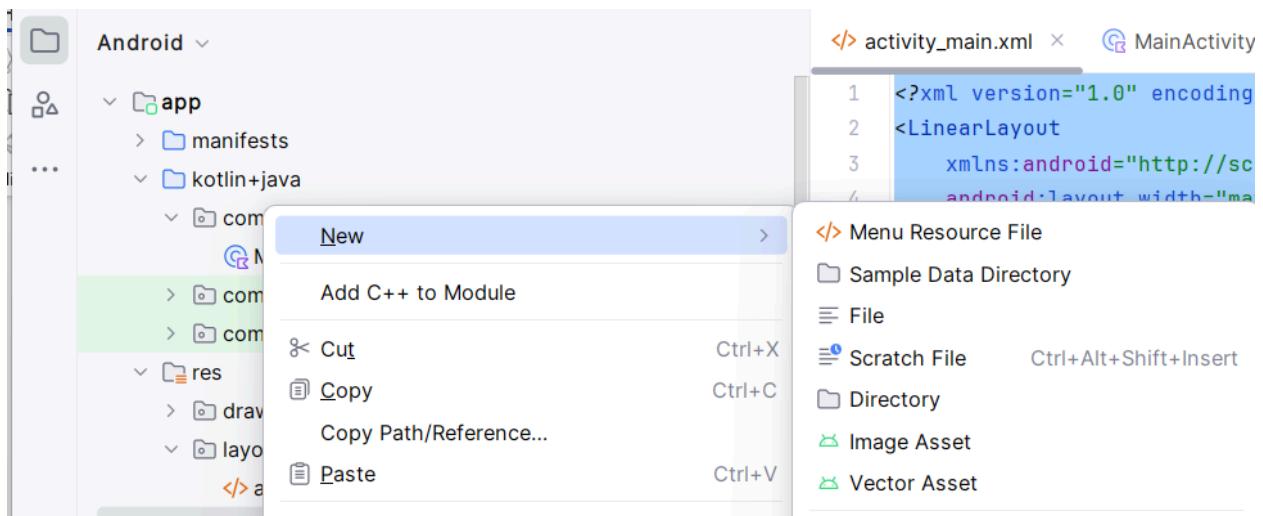
```
<?xml version="1.0" encoding="utf-8" ?>
<LinearLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:gravity="center"
    android:orientation="vertical"
    android:paddingTop="50dp">
    <TextView
        android:id="@+id/txt_name"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="RAJAN BHAGAT"
        android:textSize="24sp"
        android:textStyle="bold"
        android:layout_marginBottom="20dp"/>
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="MENU EXAMPLE"
        android:textSize="24sp"
        android:textStyle="italic"
        android:layout_marginBottom="20dp"/>
</LinearLayout>
```

## Menu folder

Step 1:create new folder under res Right click on res then select new and then select android Resource Directory



Step 2:create menu.xml file Right click on menu folder select new and then Select Menu Resource File



**menu.xml**

```
<?xml version="1.0" encoding="utf-8"?>
<menu
    xmlns:android="http://schemas.android.com/apk/res/android">
    <item android:title="Contact Us" android:id="@+id/Contact"/>
    <item android:title="About" android:id="@+id/about"/>
    <item android:title="Help" android:id="@+id/Help"/>
    <item android:title="FAQ" android:id="@+id/FAQ"/>
</menu>
```

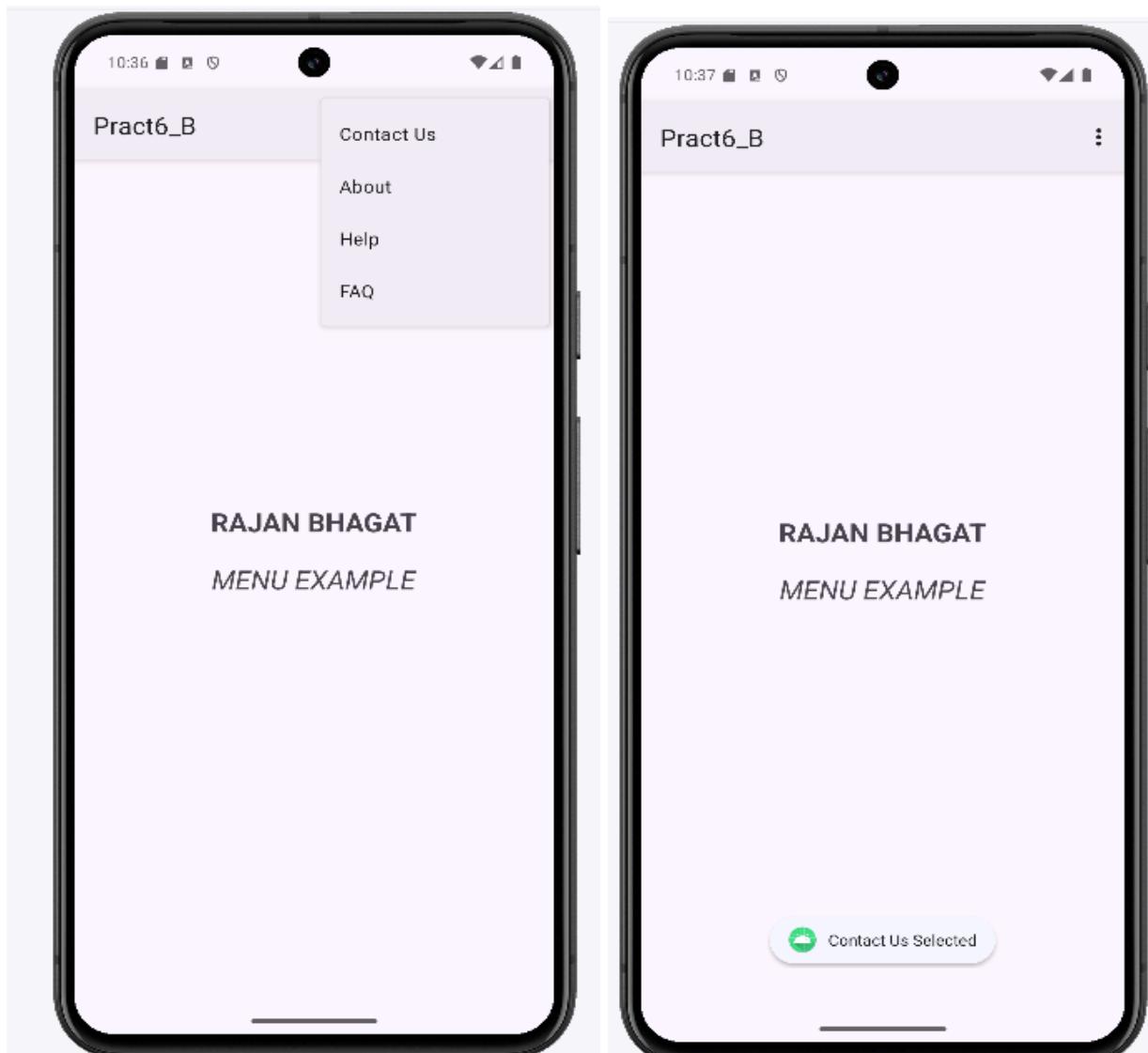
**MainActivity.kt**

```
package com.example.pract6_b
import android.os.Bundle
import android.view.Menu
import android.view.MenuItem
import android.widget.Toast
import androidx.activity.enableEdgeToEdge
import androidx.appcompat.app.AppCompatActivity

class MainActivity : AppCompatActivity() {
    override fun onCreate(savedInstanceState: Bundle?) {
        super.onCreate(savedInstanceState)
        enableEdgeToEdge()
        setContentView(R.layout.activity_main)
    }
    override fun onCreateOptionsMenu(menu: Menu?): Boolean {
        menuInflater.inflate(R.menu.menu, menu)
        return true // Use true instead of super call
    }
    override fun onOptionsItemSelected(item: MenuItem): Boolean {
        when (item.itemId) {
            R.id.Contact -> Toast.makeText(this, "Contact Us Selected",
                Toast.LENGTH_SHORT).show()
            R.id.about -> Toast.makeText(this, "About Selected",
                Toast.LENGTH_SHORT).show()
            R.id.Help -> Toast.makeText(this, "Help Selected",
                Toast.LENGTH_SHORT).show()
            R.id.FAQ -> Toast.makeText(this, "FAQ Selected",
                Toast.LENGTH_SHORT).show()
            else -> return super.onOptionsItemSelected(item)
        }
    }
}
```

```
        }  
        return true  
    }  
}
```

## OUTPUT:



## Practical 6B: Alert Dialog Box

### activity\_main.xml

```
<?xml version="1.0" encoding="utf-8" ?>
<LinearLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:gravity="center"
    android:orientation="vertical"
    android:paddingTop="50dp">

    <TextView
        android:id="@+id/txt_name"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="RAJAN BHAGAT"
        android:textSize="24sp"
        android:textStyle="bold"
        android:layout_marginBottom="20dp"/>
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Alert Box Example"
        android:textSize="24sp"
        android:textStyle="italic"
        android:layout_marginBottom="20dp"/>
</LinearLayout>
```

## MainActivity.kt

```
package com.example.practical6a
import android.os.Bundle
import androidx.activity.enableEdgeToEdge
import androidx.appcompat.app.AlertDialog
import androidx.appcompat.app.AppCompatActivity
import androidx.core.view.ViewCompat
import androidx.core.view.WindowInsetsCompat

class MainActivity : AppCompatActivity() {
    override fun onCreate(savedInstanceState: Bundle?) {
        super.onCreate(savedInstanceState)
        setContentView(R.layout.activity_main)

    }
    override fun onBackPressed() {
        AlertDialog.Builder(this)
            .setTitle("are you sure")
            .setMessage("are you sure you want to close the app")
            .setPositiveButton("yes") { dialog, whichButton ->
                super.onBackPressed()

            }
            .setNegativeButton("No") { dialog, whichButton ->
            }
            .show()
    }
}
```

## OUTPUT:



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## Prac:7A Explicit Intent Navigate between Activities

### activity\_main.xml

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical"
    android:gravity="center">
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Prac:7A Explicit Intent Navigate between
Activities"
        android:textSize="20sp"
    />
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="41dp"
        android:text="RAJAN-410"
        android:textSize="30sp" />
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="This is First Acitiviy"
        android:textSize="30sp"
    />
    <Button
        android:id="@+id/btn1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Submit"
        android:textSize="20sp"
    />
</LinearLayout>
```

## MainActivity.kt

```
package com.example.pract7a

import android.content.Intent
import android.os.Bundle
import android.widget.Button
import androidx.activity.enableEdgeToEdge
import androidx.appcompat.app.AppCompatActivity
import androidx.core.view.ViewCompat
import androidx.core.view.WindowInsetsCompat

class MainActivity : AppCompatActivity() {
    override fun onCreate(savedInstanceState: Bundle?) {
        super.onCreate(savedInstanceState)
        enableEdgeToEdge()
        setContentView(R.layout.activity_main)
        val btn= findViewById<Button>(R.id.btn1)
        btn.setOnClickListener{
            val intent = Intent(this,MainActivity2::class.java)
            startActivity(intent)
        }
    }
}
```

## activity\_main2.xml

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:gravity="center"
    android:orientation="vertical">
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="@string/app_name"
        android:textSize="30sp" />
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
```

```
    android:text="second Activity"
    android:textSize="30sp" />
</LinearLayout>
```

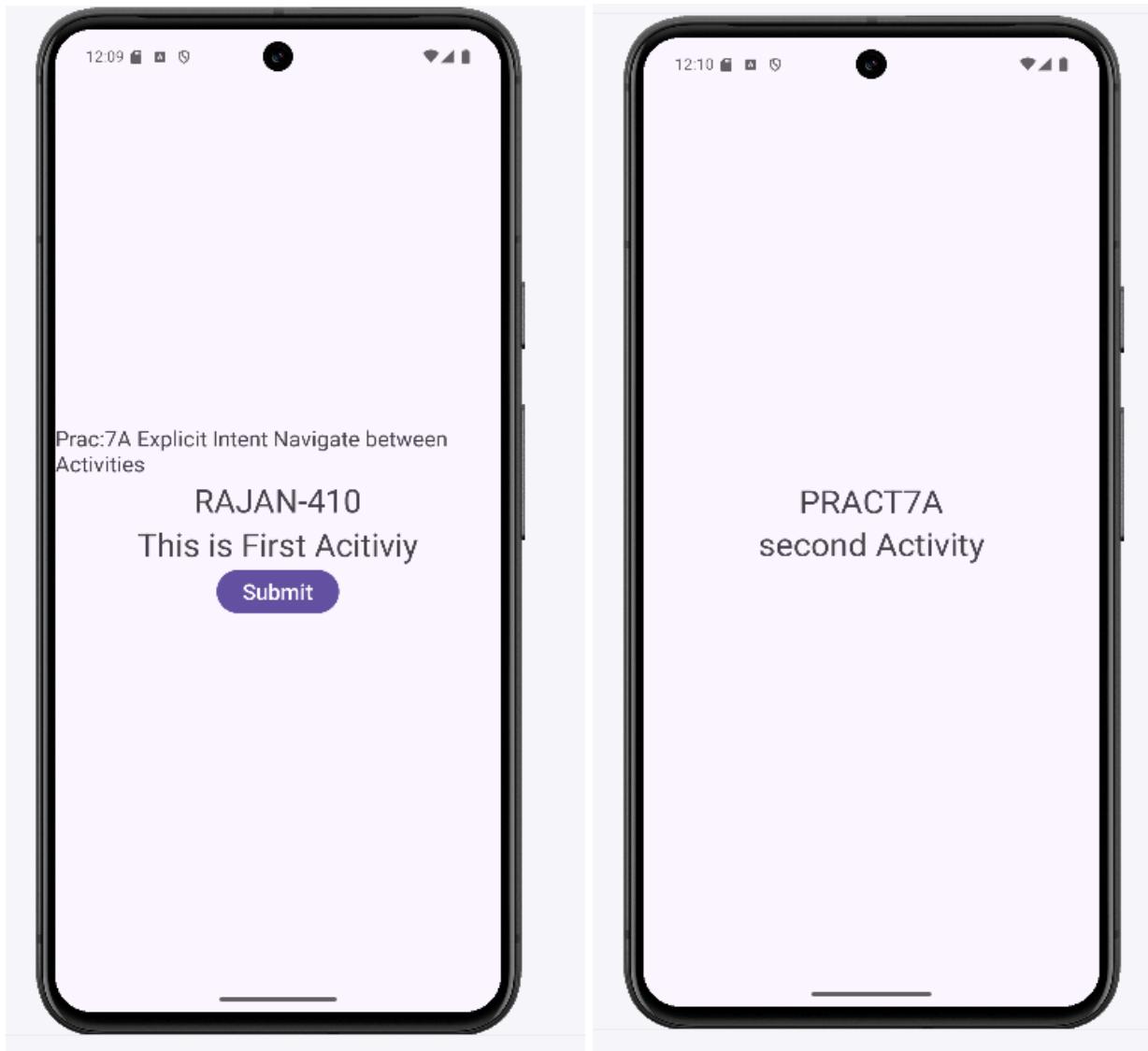
## Second\_Activity.kt

```
package com.example.pract7a

import android.os.Bundle
import androidx.activity.enableEdgeToEdge
import androidx.appcompat.app.AppCompatActivity

class MainActivity2 : AppCompatActivity() {
    override fun onCreate(savedInstanceState: Bundle?) {
        super.onCreate(savedInstanceState)
        enableEdgeToEdge()
        setContentView(R.layout.activity_main2)
    }
}
```

## OUTPUT



## Practical 7B: Explicit Intent to Share data between Activities of same application

### activity\_main.xml

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:gravity="center"
    android:orientation="vertical"
    android:paddingTop="50dp">

    <TextView
        android:id="@+id/txt_name"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="RAJAN BHAGAT"
        android:textSize="24sp"
        android:textStyle="bold"
        android:layout_marginBottom="20dp"/>

    <TextView
        android:id="@+id/txt_title"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="FIRST ACTIVITY"
        android:textSize="20sp"
        android:textStyle="italic"
        android:layout_marginBottom="20dp"/>

    <EditText
        android:id="@+id/edt1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:hint="Enter Your Name"
        android:textSize="30sp"
        android:padding="20dp"/>
```

```

<Button
    android:id="@+id	btn1"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Submit"/>
</LinearLayout>

```

## MainActivity.kt

```

package com.example.pract7
import android.content.Intent
import android.os.Bundle
import android.widget.Button
import android.widget.EditText
import androidx.activity.enableEdgeToEdge
import androidx.appcompat.app.AppCompatActivity
class MainActivity : AppCompatActivity() {
    override fun onCreate(savedInstanceState: Bundle?) {
        super.onCreate(savedInstanceState)
        enableEdgeToEdge()
        setContentView(R.layout.activity_main)
        val btn1 = findViewById<Button>(R.id.btn1)
        val edt1 = findViewById<EditText>(R.id.edt1)

        btn1.setOnClickListener {
            val message: String = edt1.text.toString()
            val intent = Intent(this, SecondActivity::class.java)
            intent.putExtra("key1", message)
            startActivity(intent)
        }
    }
}

```

## activity\_main2.xml

```

<?xml version="1.0" encoding="utf-8" ?>
<LinearLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:gravity="center"
    android:orientation="vertical"
    android:paddingTop="50dp">
    <TextView
        android:id="@+id/txt1"

```

```
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Pract 7"
    android:textSize="20sp"
    android:textStyle="italic"
    android:layout_marginBottom="20dp"/>>

<TextView
    android:id="@+id/txt2"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Second Activity"
    android:textSize="20sp"
    android:textStyle="italic"
    android:layout_marginBottom="20dp"/>>

<TextView
    android:id="@+id/txt3"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Calling explicit intent"
    android:textSize="20sp"
    android:textStyle="italic"
    android:layout_marginBottom="20dp"/>>

</LinearLayout>
```

## MainActivity2.kt

```
package com.example.pract7

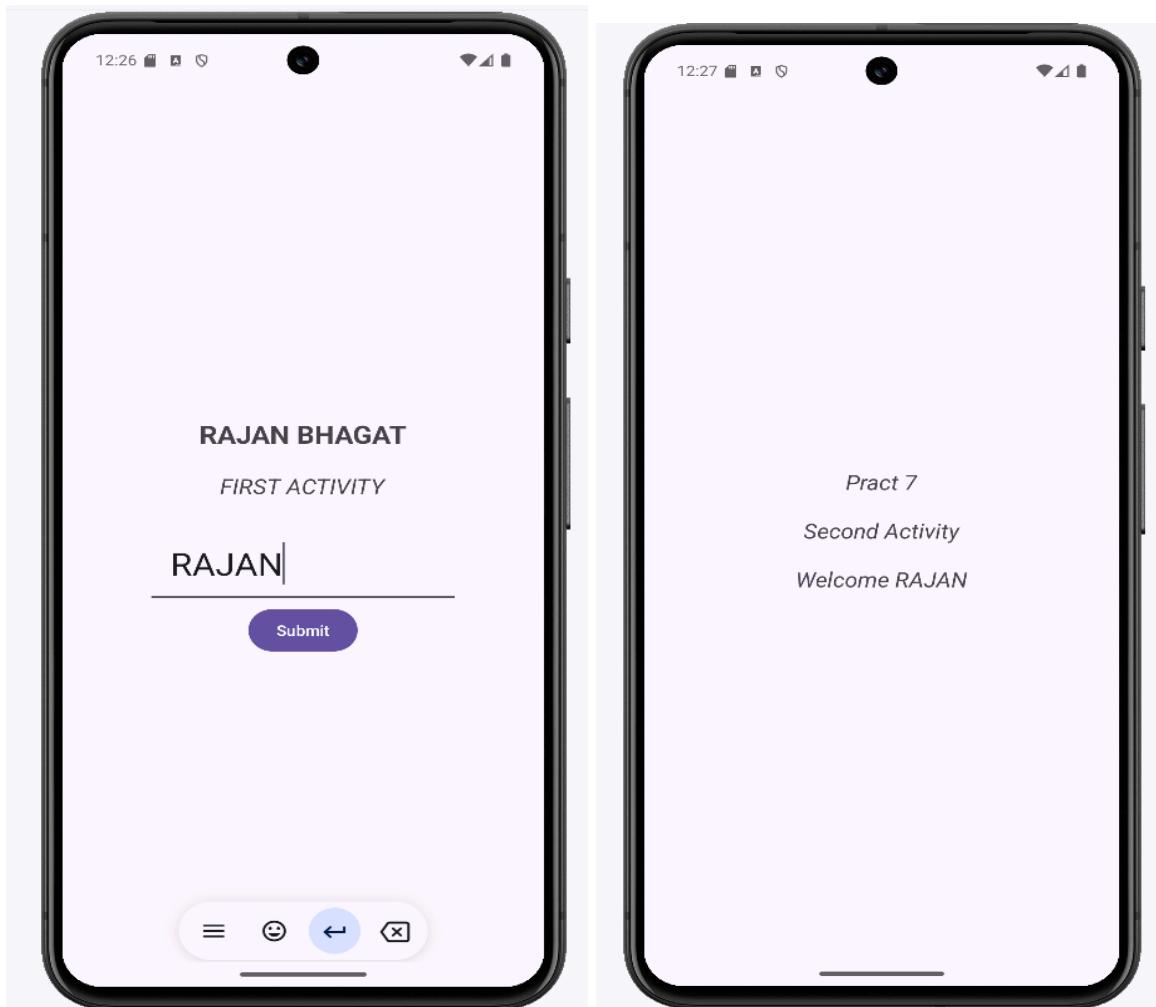
import android.os.Bundle
import android.widget.TextView
import androidx.activity.enableEdgeToEdge
import androidx.appcompat.app.AppCompatActivity

class SecondActivity : AppCompatActivity() {
    override fun onCreate(savedInstanceState: Bundle?) {
        super.onCreate(savedInstanceState)
        enableEdgeToEdge()
        setContentView(R.layout.activity_second)

        val txt3 = findViewById<TextView>(R.id.txt3)
        val grabMsg = intent.getStringExtra("key1") ?: "Guest"
```

```
txt3.text = "Welcome " +grabMsg  
}  
}
```

## OUTPUT



## Practical 7C: Implicit Intent to Share data between Applications

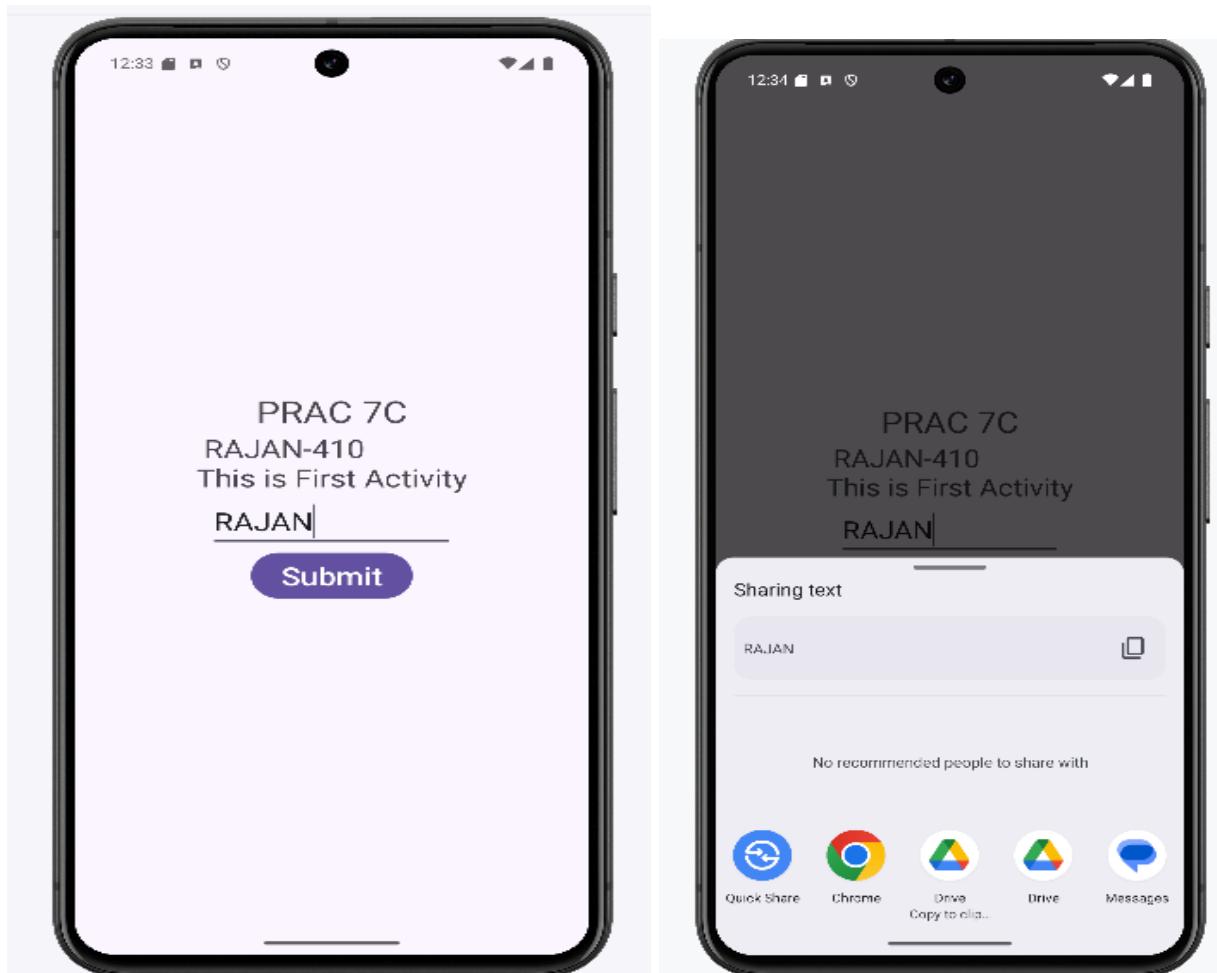
### Activity\_main.xml

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical"
    android:gravity="center">
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="PRAC 7C"
        android:textSize="30sp"/>
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:id="@+id/txt1"
        android:text=" RAJAN-410\nThis is First Activity"
        android:textSize="25sp"/>
    <EditText
        android:layout_width="wrap_content"
        android:id="@+id/edit1"
        android:layout_height="wrap_content"
        android:hint="Enter Your Name"
        android:textSize="25sp"/>
    <Button
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:id="@+id	btn1"
        android:text="Submit"
        android:textSize="25sp"/>
</LinearLayout>
```

## MainActivity.kt

```
package com.example.pract7_c
import android.content.Intent
import android.os.Bundle
import android.widget.Button
import android.widget.EditText
import androidx.activity.enableEdgeToEdge
import androidx.appcompat.app.AppCompatActivity
import androidx.core.view.ViewCompat
import androidx.core.view.WindowInsetsCompat
class MainActivity : AppCompatActivity() {
    override fun onCreate(savedInstanceState: Bundle?) {
        super.onCreate(savedInstanceState)
        enableEdgeToEdge()
        setContentView(R.layout.activity_main)
        val btn1= findViewById<Button>(R.id.btn1)
        val edt1 =findViewById<EditText>(R.id.edit1)
        btn1.setOnClickListener{
            val message:String=edt1.text.toString()
            val intent =Intent()
            intent.action=Intent.ACTION_SEND
            intent.putExtra(Intent.EXTRA_TEXT,message)
            intent.type="text/plain"
            startActivity(Intent.createChooser(intent,"Send my
Data to:"))
        }
    }
}
```

## OUTPUT:



## Practical 7D: Implicit Intent to open Google Homepage in a web browser

### Activity\_main.xml

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:gravity="center"
    android:orientation="vertical"
    android:paddingTop="50dp">
    <TextView
        android:id="@+id/txt_name"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="RAJAN BHAGAT"
        android:textSize="24sp"
        android:textStyle="bold"
        android:layout_marginBottom="20dp"/>
    <Button
        android:id="@+id	btn1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Submit"/>
</LinearLayout>
```

## MainActivity.kt

```
package com.example.pract7_d
import android.content.Intent
import android.net.Uri
import android.os.Bundle
import android.widget.Button
import androidx.activity.enableEdgeToEdge
import androidx.appcompat.app.AppCompatActivity

class MainActivity : AppCompatActivity() {
    override fun onCreate(savedInstanceState: Bundle?) {
        super.onCreate(savedInstanceState)
        enableEdgeToEdge()
        setContentView(R.layout.activity_main)

        val btn1 = findViewById<Button>(R.id.btn1) // Standardized variable name

        btn1.setOnClickListener {
            val intent = Intent(Intent.ACTION_VIEW,
            Uri.parse("https://www.google.com"))
            startActivity(intent)
        }
    }
}
```

## OUTPUT

