**Problem 5: Activity Navigator**

**Exercise Objective:** Build a simple Android app that allows users to navigate to other activities

using Explicit Intents.

**Problem Statement 5:** The app should have two activities each having a separate button. Upon clicking on the button of first activity, second activity should open and upon clicking on the button of second activity, first activity should be displayed.

**Expected Output:** Navigation between activities using explicit intent.

**AndroidManifest.xml**

<?xml version="1.0" encoding="utf-8"?>  
<manifest xmlns:android="http://schemas.android.com/apk/res/android"  
 xmlns:tools="http://schemas.android.com/tools">  
  
 <application  
 android:allowBackup="true"  
 android:dataExtractionRules="@xml/data\_extraction\_rules"  
 android:fullBackupContent="@xml/backup\_rules"  
 android:icon="@mipmap/ic\_launcher"  
 android:label="@string/app\_name"  
 android:roundIcon="@mipmap/ic\_launcher\_round"  
 android:supportsRtl="true"  
 android:theme="@style/Theme.ActivityNavigator"  
 tools:targetApi="31">  
 <activity  
 android:name=".MainActivity"  
 android:exported="true">  
 <intent-filter>  
 <action android:name="android.intent.action.MAIN" />  
  
 <category android:name="android.intent.category.LAUNCHER" />  
 </intent-filter>  
 </activity>  
  
 <!-- \*\* Declaration for SecondActivity\*\* -->  
 <activity android:name=".SecondActivity"  
 android:exported="false">  
 </activity>  
 </application>  
  
</manifest>

**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:layout\_width*="match\_parent"

*android:layout\_height*="match\_parent"

*android:padding*="16dp"

*tools:context*=".MainActivity">

    <TextView

*android:id*="@+id/textView1"

*android:layout\_width*="wrap\_content"

*android:layout\_height*="wrap\_content"

*android:text*="This is the First Activity"

*android:textSize*="24sp"

*android:textStyle*="bold"

*android:textColor*="@android:color/holo\_blue\_dark"

*app:layout\_constraintBottom\_toTopOf*="@+id/buttonGoToSecond"

*app:layout\_constraintEnd\_toEndOf*="parent"

*app:layout\_constraintStart\_toStartOf*="parent"

*app:layout\_constraintTop\_toTopOf*="parent"

*app:layout\_constraintVertical\_chainStyle*="packed"

*android:layout\_marginBottom*="32dp"/>

    <Button

*android:id*="@+id/buttonGoToSecond"

*android:layout\_width*="wrap\_content"

*android:layout\_height*="wrap\_content"

*android:text*="Go to Second Activity"

*android:textSize*="18sp"

*android:backgroundTint*="@android:color/holo\_green\_dark"

*android:textColor*="@android:color/white"

*app:layout\_constraintBottom\_toBottomOf*="parent"

*app:layout\_constraintEnd\_toEndOf*="parent"

*app:layout\_constraintStart\_toStartOf*="parent"

*app:layout\_constraintTop\_toBottomOf*="@+id/textView1" />

</androidx.constraintlayout.widget.ConstraintLayout>

**activity\_second.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:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 android:padding="16dp"  
 tools:context=".SecondActivity">  
  
 <TextView  
 android:id="@+id/textView2"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="This is the Second Activity"  
 android:textSize="24sp"  
 android:textStyle="bold"  
 android:textColor="@android:color/holo\_red\_dark"  
 app:layout\_constraintBottom\_toTopOf="@+id/buttonGoToFirst"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_chainStyle="packed"  
 android:layout\_marginBottom="32dp"/>  
  
 <Button  
 android:id="@+id/buttonGoToFirst"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Go to First Activity"  
 android:textSize="18sp"  
 android:backgroundTint="@android:color/holo\_orange\_dark"  
 android:textColor="@android:color/white"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toBottomOf="@+id/textView2" />  
  
</androidx.constraintlayout.widget.ConstraintLayout>

**MainActivity.java**

package com.example.activitynavigator;  
import androidx.appcompat.app.AppCompatActivity;  
  
import android.content.Intent;  
import android.os.Bundle;  
import android.view.View;  
import android.widget.Button;  
  
public class MainActivity extends AppCompatActivity {  
  
 private Button buttonGoToSecond; // Declare the button  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 // Set the content view to the layout for this activity  
 setContentView(R.layout.*activity\_main*);  
  
 // Initialize the button by finding its ID from the layout  
 buttonGoToSecond = findViewById(R.id.*buttonGoToSecond*);  
  
 // Set an OnClickListener for the button  
 buttonGoToSecond.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View v) {  
 // Creating an Explicit Intent to start SecondActivity  
 // The constructor takes two arguments:  
 // 1. Context (usually 'this' for the current Activity)  
 // 2. The Class of the Activity to start (SecondActivity.class)  
 Intent intent = new Intent(MainActivity.this, SecondActivity.class);  
 startActivity(intent); // Start the new activity  
 }  
 });  
 }  
}

**SecondActivity.java**

package com.example.activitynavigator;  
  
import androidx.appcompat.app.AppCompatActivity;  
import android.content.Intent;  
import android.os.Bundle;  
import android.view.View;  
import android.widget.Button;  
  
public class SecondActivity extends AppCompatActivity {  
  
 private Button buttonGoToFirst; // Declare the button  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 // Set the content view to the layout for this activity  
 setContentView(R.layout.*activity\_second*);  
  
 // Initialize the button by finding its ID from the layout  
 buttonGoToFirst = findViewById(R.id.*buttonGoToFirst*);  
  
 // Set an OnClickListener for the button  
 buttonGoToFirst.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View v) {  
 // Create an Explicit Intent to start MainActivity  
 // This will take back to the first activity  
 Intent intent = new Intent(SecondActivity.this, MainActivity.class);  
 startActivity(intent); // Start the new activity  
 // Optional: To close SecondActivity completely when going back  
 // finish();  
 }  
 });  
 }  
}