



## Experiment 2.4

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**Branch:** CSE

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**Subject Name:** Mobile Application Development Lab

**UID:** 20BCS5449

**Section/Group:** 607/A

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**1. Aim:**

Create an Android application using Fragments.

**2. Objective:**

- Understanding of the interactions between user interface and underlying application infrastructure.
- Design an android application which uses fragments in android studio.

**3. System Requirements:**

- Microsoft Windows 7/8/10 (32-bit or 64-bit)
- 4 GB RAM minimum, 8 GB RAM recommended (plus 1 GB for the Android Emulator)
- 2 GB of available disk space minimum, 4 GB recommended (500 MB for IDE plus 1.5 GB for Android SDK and emulator system image)
- 1280 x 800 minimum screen resolution
- Java JDK5 or later version
- Java Runtime Environment (JRE) 6 Android Studio

**4. Steps/Program:**

**activity\_main.xml**

```
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout 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:textAlignment="center"
    tools:context=".MainActivity">
    <FrameLayout
        android:id="@+id/frameLayout"
        android:layout_width="match_parent"
        android:layout_height="600sp"/>
    <Button
        android:id="@+id/fragment1btn"
        android:layout_width="150sp"
        android:layout_height="60sp"
        android:backgroundTint="@color/black"
        android:text="Fragment 1"
        android:layout_alignParentBottom="true"
        android:layout_marginBottom="50sp"
        android:layout_marginStart="50sp"/>
    <Button
        android:id="@+id/fragment2btn"
        android:layout_width="150sp"
```



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```
        android:layout_height="60sp"
        android:backgroundTint="@color/black"
        android:text="Fragment 2"
        android:layout_alignParentBottom="true"
        android:layout_alignParentRight="true"
        android:layout_marginBottom="50sp"
        android:layout_marginStart="50sp"/>
</RelativeLayout>
```

## MainActivity.java

```
package com.example.exp7;
import androidx.appcompat.app.AppCompatActivity;
import androidx.fragment.app.Fragment;
import androidx.fragment.app.FragmentManager;
import androidx.fragment.app.FragmentTransaction;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
public class MainActivity extends AppCompatActivity {
    Button firstFragmentBtn, secondFragmentBtn;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        firstFragmentBtn = findViewById(R.id.fragment1btn);
        secondFragmentBtn = findViewById(R.id.fragment2btn);
        firstFragmentBtn.setOnClickListener(v -> replaceFragment(new fragment1()));
        secondFragmentBtn.setOnClickListener(v -> replaceFragment(new fragment2()));
    }
    private void replaceFragment(Fragment fragment) {
        FragmentManager fragmentManager = getSupportFragmentManager();
        FragmentTransaction fragmentTransaction = fragmentManager.beginTransaction();
        fragmentTransaction.replace(R.id.frameLayout, fragment);
        fragmentTransaction.commit();
    }
}
```

## fragment1.java

```
package com.example.exp7;
import android.os.Bundle;
import androidx.fragment.app.Fragment;
import android.view.LayoutInflater;
import android.view.View;
import android.view.ViewGroup;
public class fragment1 extends Fragment {
    View view;
    @Override
    public View onCreateView(LayoutInflater inflater, ViewGroup container,
        Bundle savedInstanceState) {
        // Inflate the layout for this fragment
        view = inflater.inflate(R.layout.fragment_fragment1, container, false);
        return view;
    }
}
```

## fragment\_fragment1.xml

```
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
```



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```
xmlns:tools="http://schemas.android.com/tools"
android:layout_width="match_parent"
android:layout_height="match_parent"
android:background="@color/cardview_dark_background"
tools:context=".fragment1">
<TextView
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Fragment 1"
    android:textSize="30sp"
    android:layout_centerInParent="true"
    android:textColor="@color/black"/>
</RelativeLayout>
```

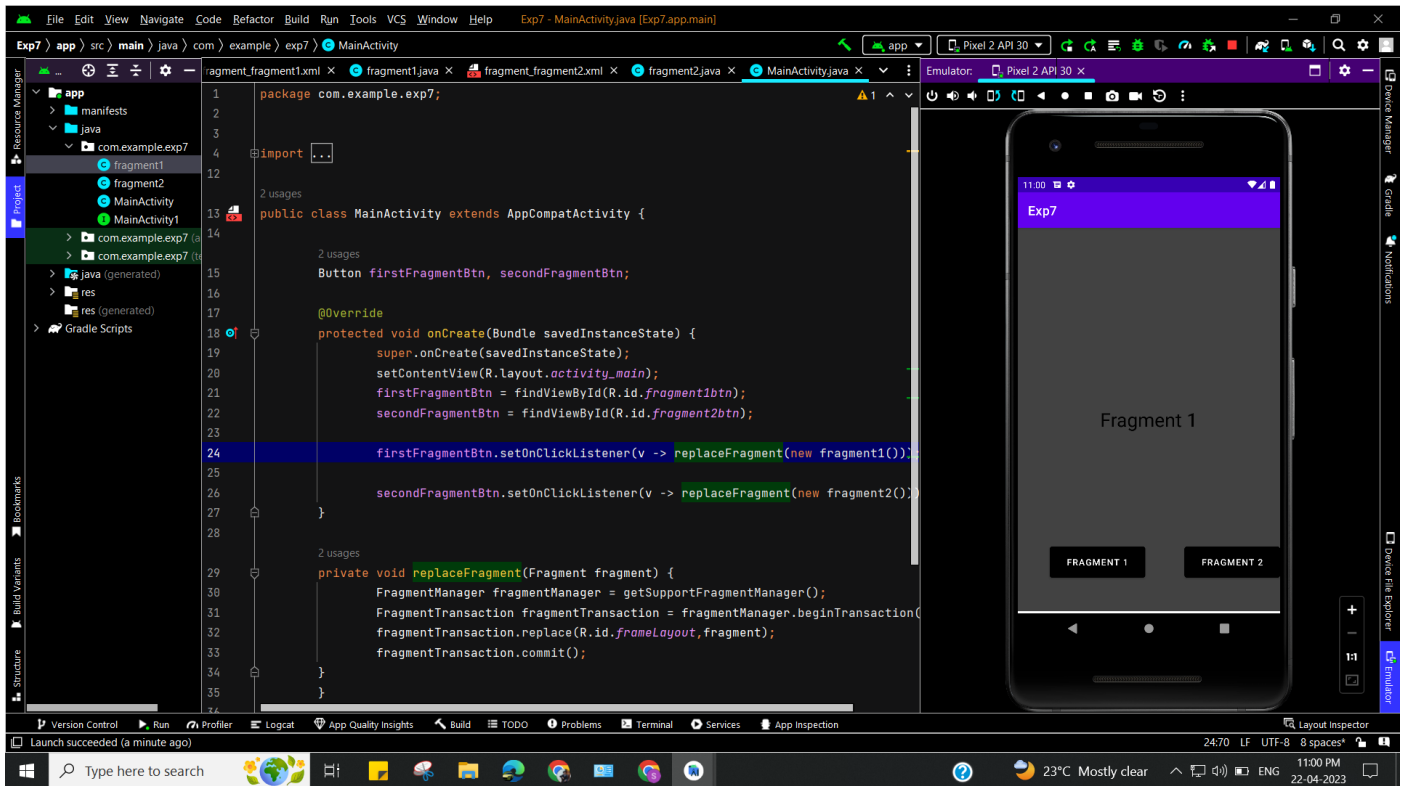
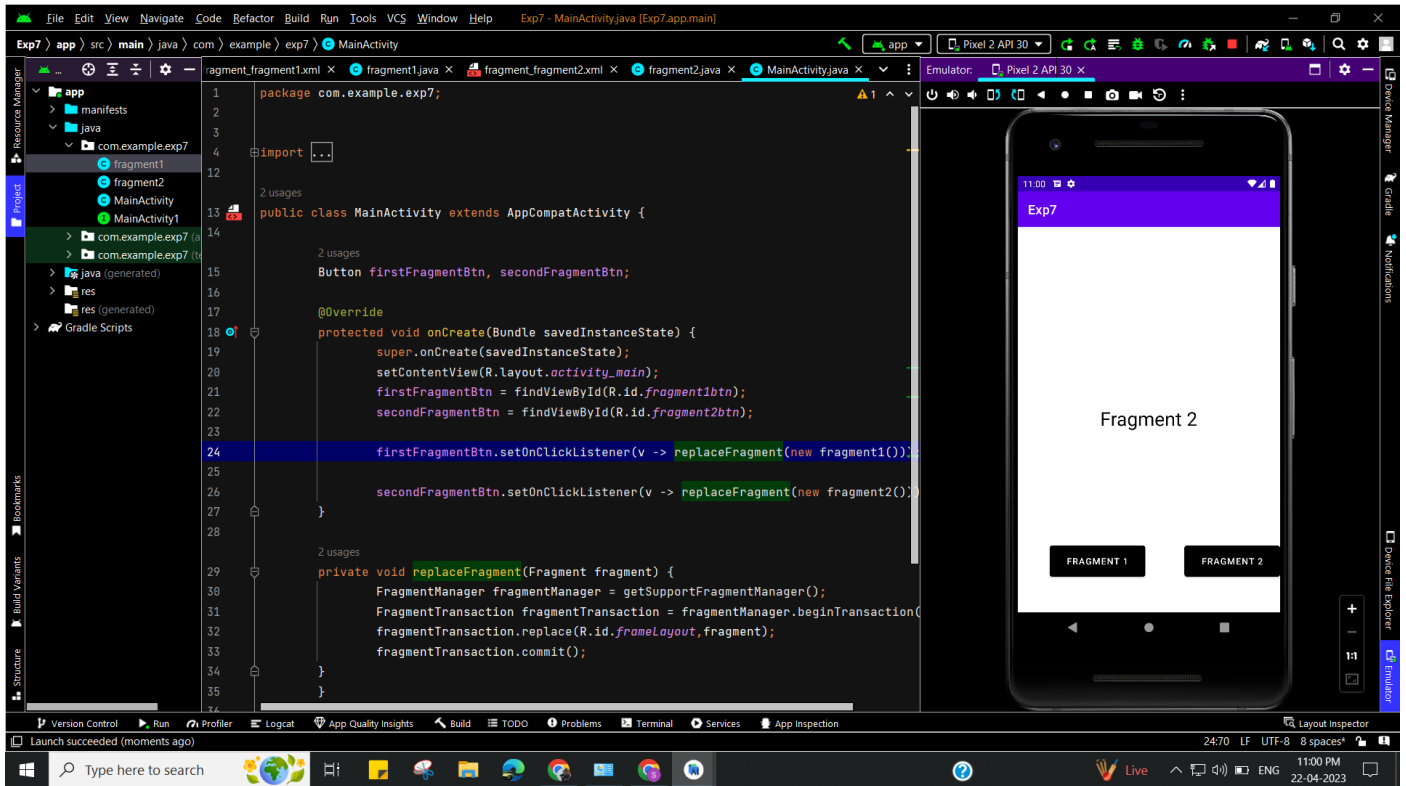
## fragment\_fragment2.xml

```
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:background="@color/cardview_light_background"
    tools:context=".fragment2">
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Fragment 2"
        android:textSize="30sp"
        android:layout_centerInParent="true"
        android:textColor="@color/black"/>
</RelativeLayout>
```

## fragment2.java

```
package com.example.exp7;
import android.os.Bundle;
import androidx.fragment.app.Fragment;
import android.view.LayoutInflater;
import android.view.View;
import android.view.ViewGroup;
public class fragment2 extends Fragment {
    View view;
    @Override
    public View onCreateView(LayoutInflater inflater, ViewGroup container,
        Bundle savedInstanceState) {
        // Inflate the layout for this fragment
        view = inflater.inflate(R.layout.fragment_fragment2, container, false);
        return view;
    }
}
```

## 5. Result/Output:



## Learning outcomes (What I have learnt):

- To design an android application which uses fragments in android studio.
- Learnt about running application on android studio.