



DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

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Experiment No. 3.1

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Semester: 6th
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1. Aim:

Create an Android application using Fragments.

2. Objective:

Android Fragment is the part of activity, it is also known as sub-activity. There can be more than one fragment in an activity. Fragments represent multiple screen inside one activity.

Android fragment lifecycle is affected by activity lifecycle because fragments are included in activity.

Each fragment has its own life cycle methods that is affected by activity life cycle because fragments are embedded in activity.

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 or higher.



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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"
    tools:context=".MainActivity">

    <FrameLayout
        android:id="@+id/frameLayout"
        android:layout_width="match_parent"
        android:layout_height="600dp"/>

    <Button
        android:id="@+id/fragment1btn"
        android:layout_width="150dp"
        android:layout_height="60dp"
        android:backgroundTint="@color/black"
        android:text="Fragment 1"
        android:layout_alignParentBottom="true"
        android:layout_marginBottom="50dp"
        android:layout_marginStart="50dp"/>

    <Button
        android:id="@+id/fragment2btn"
        android:layout_width="150dp"
        android:layout_height="60dp"
        android:backgroundTint="@color/black"
        android:text="Fragment 2"
        android:layout_alignParentBottom="true"
        android:layout_alignParentRight="true"
        android:layout_marginBottom="50dp"
        android:layout_marginEnd="50dp"/>

</RelativeLayout>
```



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fragment_fragment1.xml

```
<?xml version="1.0" encoding="utf-8"?>
<FrameLayout 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_dark_background"
    tools:context=".fragments.FirstFragment">

    <!-- TODO: Update blank fragment layout -->
    <TextView android:layout_width="match_parent" android:layout_height="wrap_content"
        android:background="@color/purple_200" android:text="Radhe Ravi" android:textSize="70dp"
        android:gravity="center_horizontal"/>

</FrameLayout>
```

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/fragment2color"
    tools:context=".fragment2">

    <!-- TODO: Update blank fragment layout -->
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Fragment 2"
        android:textSize="30dp"
        android:layout_centerHorizontal="true"
        android:layout_marginTop="50dp"
        android:textStyle="bold"
        android:textColor="@color/black"/>

    <TextView
        android:id="@+id/dataFrom1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text=""
        android:layout_centerHorizontal="true"
        android:layout_marginTop="150dp"
        android:textColor="@color/black"
        android:textSize="26dp"/>
```



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<EditText

```
    android:id="@+id/fragment2Data"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_centerHorizontal="true"
    android:layout_marginTop="300dp"
    android:layout_marginHorizontal="26dp"
    android:ems="10"
    android:inputType="textPersonName"
    android:hint="Data to Fragment 1" />
```

<Button

```
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:id="@+id/sendData2btn"
    android:text="Send Data to Fragment 1"
    android:backgroundTint="@color/black"
    android:layout_centerHorizontal="true"
    android:layout_below="@id/fragment2Data"
    android:layout_marginTop="20dp"/>
```

</RelativeLayout>



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Main_Activity.java

```
package com.example.fragments;

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(new View.OnClickListener() {
            @Override
            public void onClick(View v) {

                replaceFragment(new fragment1());

            }
        });

        secondFragmentBtn.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {

                replaceFragment(new fragment2());

            }
        });

    }

    private void replaceFragment(Fragment fragment) {

        FragmentManager fragmentManager = getSupportFragmentManager();
        FragmentTransaction fragmentTransaction = fragmentManager.beginTransaction();
        fragmentTransaction.replace(R.id.frameLayout, fragment);
        fragmentTransaction.commit();

    }
}

FIRST_FRAGMENT.JAVA
```



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Second_Fragment.java

```
package com.example.fragments;

import android.app.FragmentManager;
import android.os.Bundle;

import androidx.annotation.NonNull;
import androidx.fragment.app.Fragment;
import androidx.fragment.app.FragmentManager;
import androidx.fragment.app.FragmentResultListener;

import android.util.Log;
import android.view.LayoutInflater;
import android.view.View;
import android.view.ViewGroup;
import android.widget.Button;
import android.widget.EditText;
import android.widget.TextView;
import android.widget.Toast;

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_1, container, false);

        Button button = view.findViewById(R.id.sendData1btn);

        getParentFragmentManager().setFragmentResultListener("dataFrom2", this, new
        FragmentResultListener() {
            @Override
            public void onFragmentResult(@NonNull String requestKey, @NonNull Bundle result) {

                String data = result.getString("df2");
                TextView textView = view.findViewById(R.id.dataFrom2);
                textView.setText(data);

            }
        });

        button.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {

                EditText editText = view.findViewById(R.id.fragment1Data);
                Bundle result = new Bundle();
                result.putString("df1", editText.getText().toString());
                getParentFragmentManager().setFragmentResult("dataFrom1", result);
                editText.setText("");

            }
        });

        return view;
    }
}
```

```
}  
  
@Override  
public View onCreateView(LayoutInflater inflater, ViewGroup container,  
                        Bundle savedInstanceState) {  
    // Inflate the layout for this fragment  
    View view = inflater.inflate(R.layout.fragment_second, container, false);  
    return view;  
}  
}
```

Output-

