**Experiment 7**

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**Branch: CSE Section/Group: 716/B**

**Semester: 6th Date of Performance: 12 April2023**

**Subject Name: MAD Lab**

**AIM :**

Create an Android application using Fragments

**OBJECTIVE:**

1. To know About the App widgets and how to use them.
2. Learn to scroll and drag in Andros studio.
3. how to code for app widgets.
4. Use of checkbox
5. Use of intent
6. Use of SMS
7. Use of fragment

**STEPS :**

1. Create a new project in Android Studio: In Android Studio, click on "Start a new Android Studio project" and give your application a name.
2. Add a Fragment to your project: Right-click on the package name and select New > Fragment > Fragment (Blank). Give your fragment a name and click Finish.
3. Design the Fragment layout: Open the newly created fragment layout file and design the UI according to your needs.
4. Create a Fragment class: Open the fragment class file and add the necessary code for the fragment. You can override the onCreateView() method to inflate the fragment layout and return the View object.
5. Add the Fragment to your activity: Open your main activity class file and add a FrameLayout to your layout file where you want to display the fragment. Use the FragmentManager to add the fragment to the FrameLayout.
6. Interact with the Fragment: You can interact with the fragment by calling its public methods from the activity or other fragments.

**MainActivity.java**

package com.example.fragmentexampleex7;  
import androidx.appcompat.app.AppCompatActivity;  
import android.os.Bundle;  
public class MainActivity extends AppCompatActivity implements FramentA.FragmentListener,FramentB.FragmentListener {  
 private FramentA framentA;  
 private FramentB framentB;  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_main*);  
 framentA=new FramentA();  
 framentB=new FramentB();  
  
 getSupportFragmentManager().beginTransaction().replace(R.id.*container\_a*,framentA)  
 .replace(R.id.*container\_a*,framentB).commit();  
 }  
 @Override  
 public void onInputASent(CharSequence input) {  
 framentB.updateEditText(input);  
 }  
 @Override  
 public void onInputBSent(CharSequence input) {  
 framentA.updateEditText(input);  
 }  
}

# MainActivity.xml

<?xml version="1.0" encoding="utf-8"?>  
<LinearLayout 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:orientation="vertical"  
 tools:context=".MainActivity">  
<FrameLayout  
 android:id="@+id/container\_a"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 />  
<FrameLayout  
 android:id="@+id/container\_b"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"/>  
</LinearLayout>

**Manifest.xml file**

<?xml version="1.0" encoding="utf-8"?>  
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"  
 android:orientation="vertical"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:background="@android:color/holo\_green\_light"  
 android:padding="16dp"  
 android:gravity="center\_horizontal">  
  
 <EditText  
 android:id="@+id/edit\_text"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 />  
 <Button  
 android:id="@+id/button\_ok"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Ok"  
 />  
</LinearLayout>

**Fragement files**

package com.example.fragmentexampleex7;  
  
import android.content.Context;  
import android.os.Bundle;  
import android.view.LayoutInflater;  
import android.view.View;  
import android.view.ViewGroup;  
import android.widget.Button;  
import android.widget.EditText;  
import androidx.annotation.NonNull;  
import androidx.annotation.Nullable;  
import androidx.fragment.app.Fragment;  
public class FramentA extends Fragment {  
 private FragmentListener listener;  
 private EditText editText;  
 private Button buttonOk;  
  
 public FramentA() {  
 }  
  
 public interface FragmentListener{  
 void onInputASent(CharSequence input);  
 }  
 @Nullable  
 @Override  
 public View onCreateView(@NonNull LayoutInflater inflater, @Nullable ViewGroup container, @Nullable Bundle savedInstanceState) {  
 View v=inflater.inflate(R.layout.*frament\_a*,container,false);  
 editText =v.findViewById(R.id.*edit\_text*);  
 buttonOk=v.findViewById(R.id.*button\_ok*);  
 buttonOk.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View view) {  
 CharSequence input=editText.getText();  
 listener.onInputASent(input);  
 }  
 });  
 return v;  
 }  
 public void updateEditText(CharSequence newText){  
 editText.setText(newText);  
 }  
 @Override  
 public void onAttach(@NonNull Context context) {  
 super.onAttach(context);  
 if(context instanceof FragmentListener){  
 listener =(FragmentListener) context;  
 }else{  
 throw new RuntimeException(context.toString()+  
 " must implement FragmentListener");  
 }  
 }  
  
 @Override  
 public void onDetach() {  
 super.onDetach();  
 listener=null;  
 }  
}

package com.example.fragmentexampleex7;  
import android.content.Context;  
import android.os.Bundle;  
import android.view.LayoutInflater;  
import android.view.View;  
import android.view.ViewGroup;  
import android.widget.Button;  
import android.widget.EditText;  
import androidx.annotation.NonNull;  
import androidx.annotation.Nullable;  
import androidx.fragment.app.Fragment;  
public class FramentB extends Fragment {  
 private FragmentListener listener;  
 private EditText editText;  
 private Button buttonOk;  
  
 public FramentB() {  
 }  
  
 public interface FragmentListener{  
 void onInputBSent(CharSequence input);  
 }  
 @Nullable  
 @Override  
 public View onCreateView(@NonNull LayoutInflater inflater, @Nullable ViewGroup container, @Nullable Bundle savedInstanceState) {  
 View v=inflater.inflate(R.layout.*frament\_b*,container,false);  
 editText =v.findViewById(R.id.*edit\_text*);  
 buttonOk=v.findViewById(R.id.*button\_ok*);  
 buttonOk.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View view) {  
 CharSequence input=editText.getText();  
 listener.onInputBSent(input);  
 }  
 });  
 return v;  
 }  
 public void updateEditText(CharSequence newText){  
 editText.setText(newText);  
 }  
  
 @Override  
 public void onAttach(@NonNull Context context) {  
 super.onAttach(context);  
 if(context instanceof FragmentListener){  
 listener =(FragmentListener) context;  
 }else{  
 throw new RuntimeException(context.toString()+  
 " must implement FragmentListener");  
 }  
 }  
  
 @Override  
 public void onDetach() {  
 super.onDetach();  
 listener=null;  
 }  
}

**Fragment.xml**

<?xml version="1.0" encoding="utf-8"?>  
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"  
 android:orientation="vertical"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:background="@android:color/holo\_blue\_light"  
 android:padding="16dp"  
 android:gravity="center\_horizontal">  
 <EditTexts  
 android:id="@+id/edit\_text"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 />  
 <Button  
 android:id="@+id/button\_ok"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Ok"  
 />  
</LinearLayout>

<?xml version="1.0" encoding="utf-8"?>  
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 android:padding="16dp"  
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 <EditText  
 android:id="@+id/edit\_text"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 />  
 <Button  
 android:id="@+id/button\_ok"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Ok"  
 />  
</LinearLayout>

**Output**

 