

COURSE OUTCOME 4

PROGRAM NO:1

AIM: Develop an application that use GridView with images and display Alert box on selection.

PROGRAM CODE:

XML CODE:

activity_main.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:background="#94999A"

    tools:context=".MainActivity">

    <GridView

        android:id="@+id/gridView"

        android:layout_width="fill_parent"

        android:layout_height="wrap_content"

        android:background="#DFB7E6"

        android:backgroundTint="#C59292"

        android:footerDividersEnabled="false"

        android:numColumns="3"
```

```
        android:padding="1dp" />
</LinearLayout>
```

JAVA CODE:

MainActivity.java

```
package com.example.co4_q1gridalert;

import androidx.appcompat.app.AlertDialog;
import androidx.appcompat.app.AppCompatActivity;
import android.content.Context;
import android.content.DialogInterface;
import android.os.Bundle;
import android.view.View;
import android.widget.AdapterView;
import android.widget.GridView;

public class MainActivity extends AppCompatActivity {

    GridView gd;

    int logos[] = {R.drawable.d1,R.drawable.d2, R.drawable.d3};

    String[] names = {"AMAZON","Meesho","Nykaa"};

    final Context context = this;

    AlertDialog.Builder builder;

    @Override
    protected void onCreate(Bundle savedInstanceState) {

        super.onCreate(savedInstanceState);

        setContentView(R.layout.activity_main);

        GridView gv = (GridView) findViewById(R.id.gridView);

        gv.setAdapter(new ImageAdapter(this));

        builder = new AlertDialog.Builder(this);
```

```

gv.setOnItemClickListener(new AdapterView.OnItemClickListener() {
    public void onItemClick(AdapterView<?> parent, View v, int position, long id) {

        builder.setMessage("Website Name : "+String.valueOf(names[position]))
            .setCancelable(false)
            .setPositiveButton("Ok", new DialogInterface.OnClickListener() {
                public void onClick(DialogInterface dialog, int id) {
                }
            });

        AlertDialog alert = builder.create();

        alert.setTitle("Alert Box");
        alert.show();
    }
});
}
}

```

ImageAdapter.java

```

package com.example.co4_q1gridalert;

```

```

import android.content.Context;
import android.view.View;
import android.view.ViewGroup;
import android.widget.BaseAdapter;
import android.widget.GridView;
import android.widget.ImageView;

```

```

public class ImageAdapter extends BaseAdapter {

```

```
private Context mContext;

public ImageAdapter(Context c) {
    mContext = c;
}

public int getCount() {
    return thumbImages.length;
}

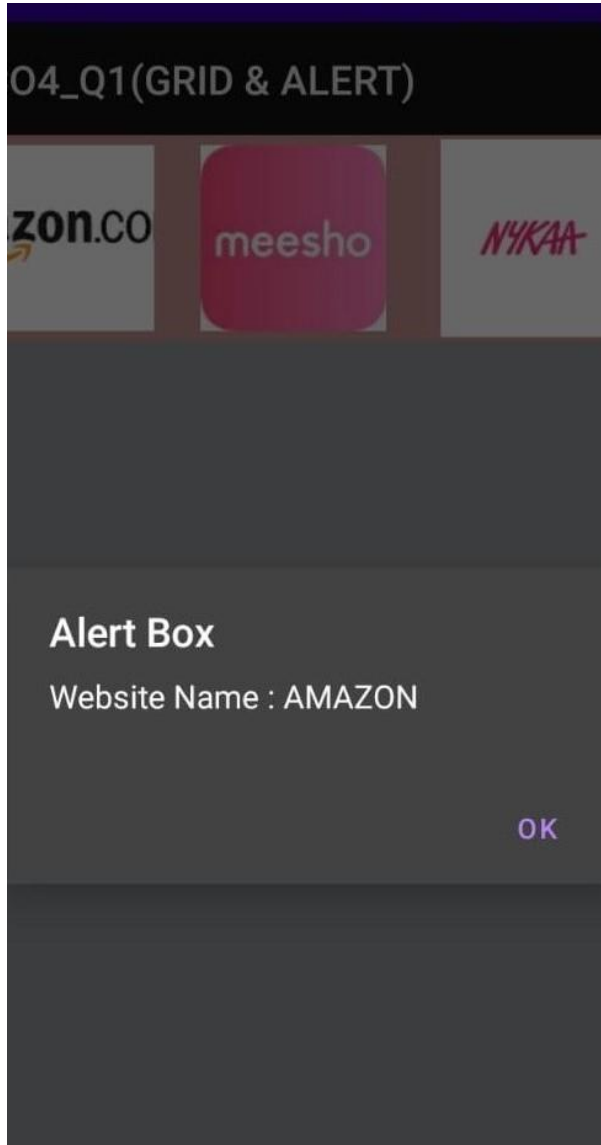
public Object getItem(int position) {
    return null;
}

public long getItemId(int position) {
    return 0;
}

public View getView(int position, View convertView, ViewGroup parent) {
    ImageView imageView = new ImageView(mContext);
    imageView.setLayoutParams(new GridView.LayoutParams(200, 200));
    imageView.setScaleType(ImageView.ScaleType.CENTER_CROP);
    imageView.setPadding(8, 8, 8, 8);
    imageView.setImageResource(thumbImages[position]);
    return imageView;
}

public Integer[] thumbImages = {
    R.drawable.d1,
    R.drawable.d2,
    R.drawable.d3
};
}
```

OUTPUT



RESULT: The program executed successfully and output is obtained

PROGRAM NO:2

AIM: Develop an application that implements Spinner component and perform event handling

PROGRAM CODE:

XML CODE:

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/but"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity">

    <Spinner
        android:id="@+id/coursesspinner"
        android:layout_width="160dp"
        android:layout_height="50dp"
        android:layout_marginStart="10dp"
        android:layout_marginTop="10dp"
        android:layout_marginEnd="10dp"
        android:layout_marginBottom="10dp"
        app:layout_constraintStart_toStartOf="parent"
```

```
        app:layout_constraintTop_toTopOf="parent" />
</androidx.constraintlayout.widget.ConstraintLayout>
```

JAVA CODE:

MainActivity.java

```
package com.example.spinner;

import androidx.appcompat.app.AppCompatActivity;

import android.view.View;

import android.widget.AdapterView;

import android.widget.AdapterView.OnItemClickListener;

import android.os.Bundle;

import android.widget.ArrayAdapter;

import android.widget.Spinner;

import android.widget.Toast;

public class MainActivity extends AppCompatActivity implements
    AdapterView.OnItemClickListener {

    String[] Names = { "Christy","Sindhoori","Anila","Shana","others"};

    @Override

    protected void onCreate(Bundle savedInstanceState) {

        super.onCreate(savedInstanceState);

        setContentView(R.layout.activity_main);

        //Getting the instance of Spinner and applying OnItemClickListener on it

        Spinner spin = (Spinner) findViewById(R.id.coursesspinner);

        spin.setOnItemClickListener(this);

        //Creating the ArrayAdapter instance having the country list

        ArrayAdapter aa = new ArrayAdapter(this,android.R.layout.simple_spinner_item,Names);

        aa.setDropDownViewResource(android.R.layout.simple_spinner_dropdown_item);

        //Setting the ArrayAdapter data on the Spinner
```

```

spin.setAdapter(aa);
}

//Performing action onItemSelected and onNothing selected

@Override

public void onItemSelected(AdapterView<?> arg0, View arg1, int position, long id) {
    Toast.makeText(getApplicationContext(),Names[position] , Toast.LENGTH_LONG).show();
}

@Override

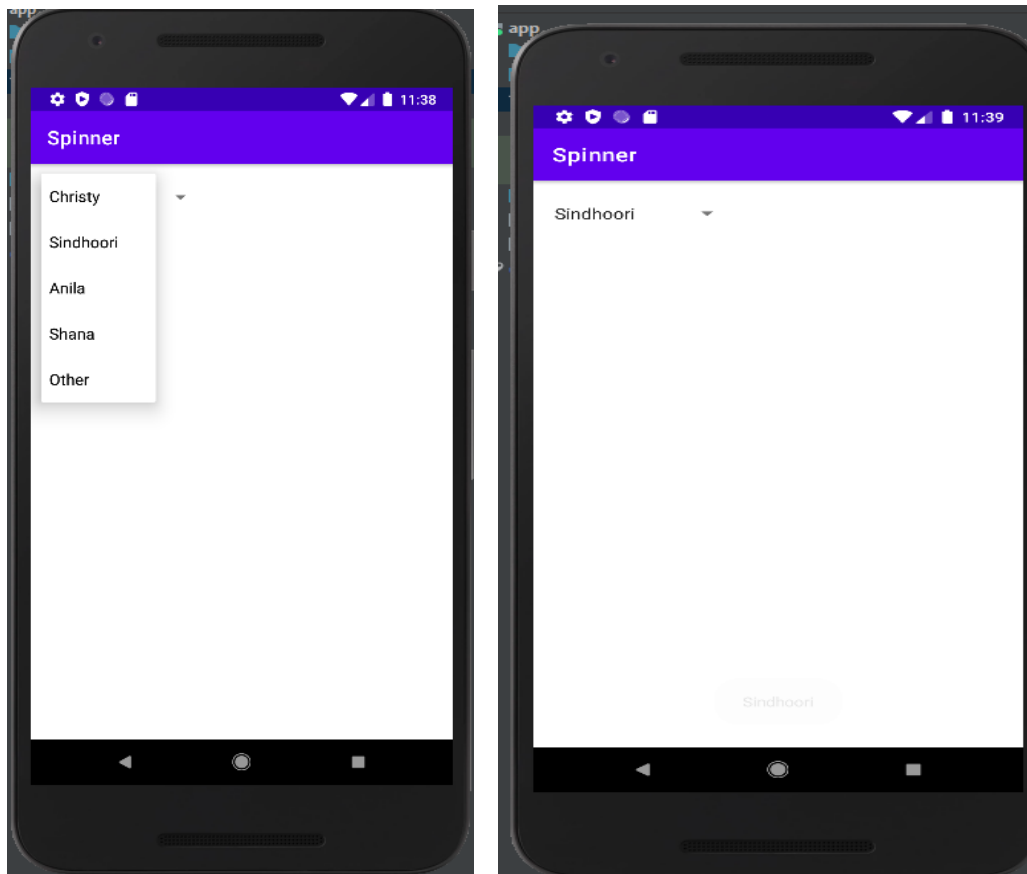
public void onNothingSelected(AdapterView<?>

// TODO Auto-generated method stub

}

```

OUTPUT



RESULT: The program executed successfully and output is obtained

PROGRAM NO:3

AIM: Apply themes via code and manifest file

PROGRAM CODE:

XML CODE:

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"
    tools:context=".MainActivity">

    <Button

        android:id="@+id/button"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:onClick="onClick"
        android:text="Button"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.46"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        tools:ignore="MissingConstraints,OnClick" />
```

```
</androidx.constraintlayout.widget.ConstraintLayout>
```

activity_main2.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"  
    tools:context=".MainActivity2">  
  
</androidx.constraintlayout.widget.ConstraintLayout>
```

AndroidManifest.xml

```
<?xml version="1.0" encoding="utf-8"?>  
  
<manifest xmlns:android="http://schemas.android.com/apk/res/android"  
    package="com.example.theme">  
  
    <application  
        android:allowBackup="true"  
        android:icon="@mipmap/ic_launcher"  
        android:label="@string/app_name"  
        android:roundIcon="@mipmap/ic_launcher_round"  
        android:supportRtl="true"  
        android:theme="@style/Theme.Theme">  
  
        <activity  
            android:name=".MainActivity2"  
            android:exported="false"  
            android:theme="@style/Theme.Theme1"/>  
  
        <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>
</application>

</manifest>
```

JAVA CODE:

MainActivity.java

```
package com.example.theme;

import androidx.appcompat.app.AppCompatActivity;
import android.content.Intent;
import android.os.Bundle;
import android.view.View;

public class MainActivity extends AppCompatActivity {

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
    }

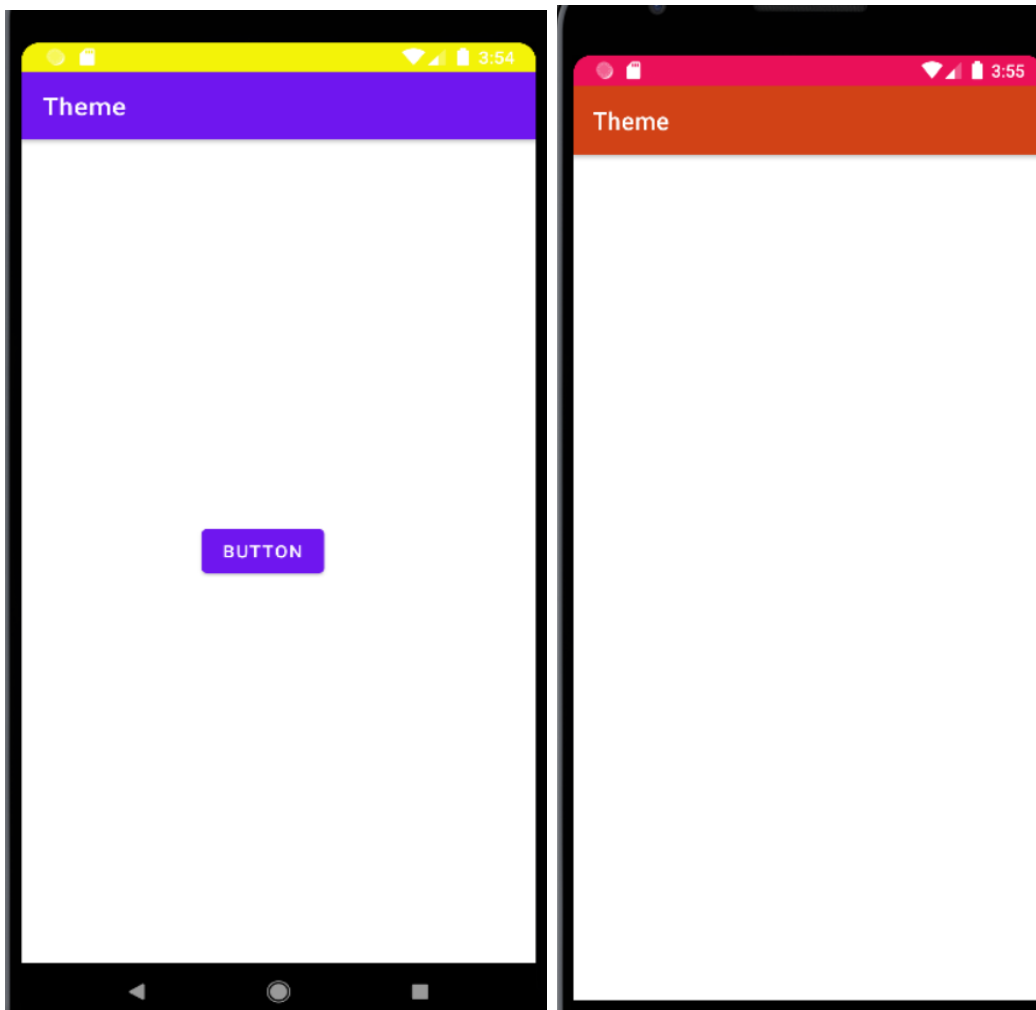
    public void onClick(View view){
        Intent i=new Intent(this,MainActivity2.class);
        startActivity(i);

    }
}
```

MainActivity2.java

```
package com.example.theme;  
import androidx.appcompat.app.AppCompatActivity;  
import android.os.Bundle;  
public class MainActivity2 extends AppCompatActivity {  
    @Override  
    protected void onCreate(Bundle savedInstanceState) {  
        super.onCreate(savedInstanceState); setContentView(R.layout.activity_main2);  
    }  
}
```

OUTPUT



RESULT: The program executed successfully and output is obtained

PROGRAM NO:4

AIM: . Develop application using Fragments

PROGRAM CODE:

XML CODE:

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"
    tools:context=".MainActivity">

    <Button

        android:id="@+id/f2"

        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginStart="32dp"
        android:layout_marginTop="100dp"
        android:onClick="fragment2Start"
        android:text="Fragment 2"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.5"
        app:layout_constraintStart_toEndOf="@+id/f1"
```

```

        app:layout_constraintTop_toTopOf="parent" />
<Button
    android:id="@+id/f1"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginTop="100dp"
    android:onClick="fragment1Start"
    android:text="Fragment 1"
    app:layout_constraintEnd_toStartOf="@+id/f2"
    app:layout_constraintHorizontal_bias="0.5"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent" />
<FrameLayout
    android:id="@+id/fra"
    android:layout_width="409dp"
    android:layout_height="581dp"
    tools:layout_editor_absoluteX="2dp"
    tools:layout_editor_absoluteY="148dp">
    </FrameLayout>
</androidx.constraintlayout.widget.ConstraintLayout>

```

Fragment1.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/frameLayout2"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:background="#F68DB3"

```

```

tools:context=".Fragment_1">
<TextView
    android:id="@+id/textView2"
    android:layout_width="154dp"
    android:layout_height="46dp"
    android:text="Fragment 1"
    android:textAlignment="center"
    android:textColor="#DA1C16"
    android:textSize="24sp"
    android:textStyle="bold|italic"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.498"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.499" />
</androidx.constraintlayout.widget.ConstraintLayout>

```

Fragment2.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/frameLayout"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:background="#7DE40F"
    tools:context=".Fragment_2">

```

```
<!-- TODO: Update blank fragment layout -->
<TextView
    android:id="@+id/textView"
    android:layout_width="131dp"
    android:layout_height="61dp"
    android:text="Fragment 2"
    android:textAlignment="center"
    android:textColor="#121111"
    android:textSize="24sp"
    android:textStyle="bold"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent" />

</androidx.constraintlayout.widget.ConstraintLayout>
```

JAVA CODE:

MainActivity.java

```
package com.example.fragmentsq4;

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.Toast;

public class MainActivity extends AppCompatActivity {
```



```

@Override

protected void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity_main);
}

public void fragement1Start(View view){
    replaceFragement(new Fragment_1());
}

public void fragement2Start(View view){
    replaceFragement(new Fragment_2());
}

public void replaceFragement(Fragment pragment){
    FragmentManager fm = getSupportFragmentManager();
    FragmentTransaction ft = fm.beginTransaction();
    ft.replace(R.id.fra,pragment);
    ft.commit();
}

}

```

Fragment1.java

```

package com.example.fragmentsq4;

import android.os.Bundle;
import androidx.fragment.app.Fragment;
import android.view.LayoutInflater;
import android.view.View;
import android.view.ViewGroup;

public class Fragment_1 extends Fragment {

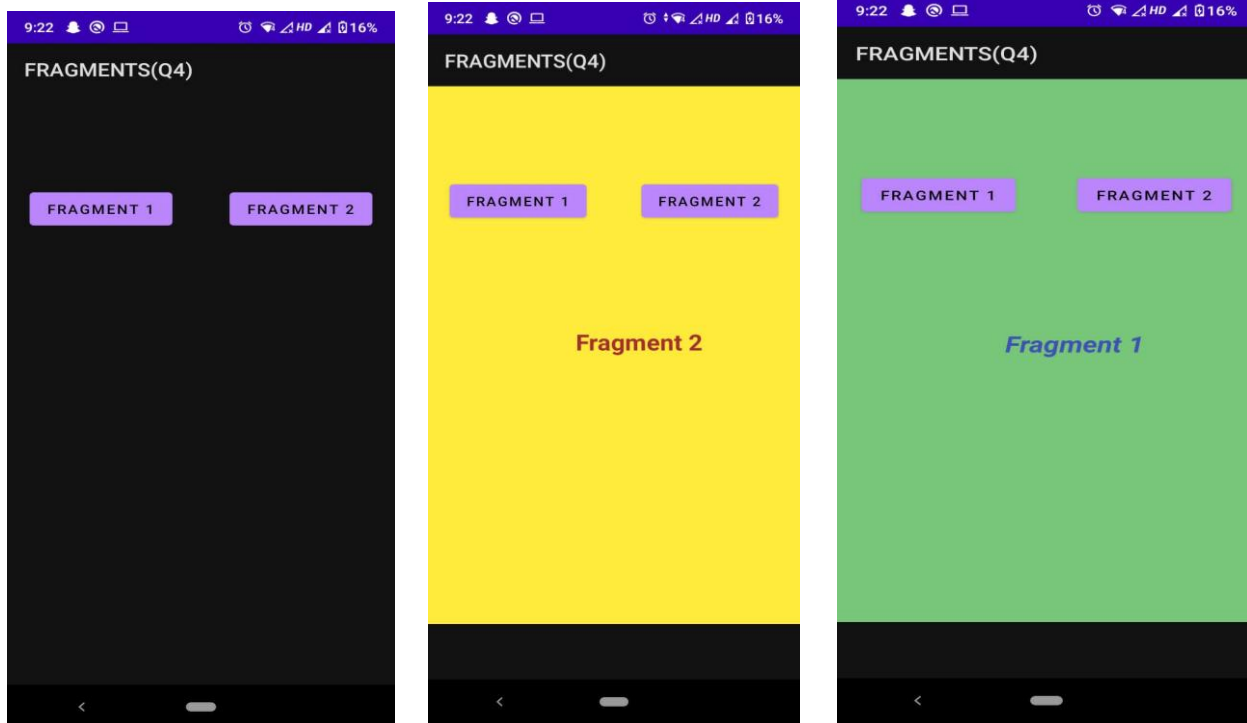
```

```
@Override  
public View onCreateView(LayoutInflater inflater, ViewGroup container,  
        Bundle savedInstanceState) {  
    // Inflate the layout for this fragment  
    return inflater.inflate(R.layout.fragment_1, container, false);  
}  
}
```

Fragment2.java

```
package com.example.fragmentsq4;  
import android.os.Bundle;  
import androidx.fragment.app.Fragment;  
import android.view.LayoutInflater;  
import android.view.View;  
import android.view.ViewGroup;  
public class Fragment_2 extends Fragment {  
    @Override  
    public View onCreateView(LayoutInflater inflater, ViewGroup container,  
        Bundle savedInstanceState) {  
        // Inflate the layout for this fragment  
        return inflater.inflate(R.layout.fragment_2, container, false);  
    }  
}
```

OUTPUT



RESULT: The program executed successfully and output is obtained

PROGRAM NO:5

AIM: Implement Navigation drawer.

PROGRAM CODE:

XML CODE:

activity_main.xml

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

<androidx.drawerlayout.widget.DrawerLayout
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/drawer_layout"
android:layout_width="match_parent"
android:layout_height="match_parent"
android:fitsSystemWindows="true"
tools:openDrawer="start">

<include android:id="@+id/app_bar_main"
layout="@layout/app_bar_main"
android:layout_width="match_parent"
android:layout_height="match_parent" />

<com.google.android.material.navigation.Navigation
View android:id="@+id/nav_view"
android:layout_width="wrap_content"
android:layout_height="match_parent"
android:layout_gravity="start"
android:fitsSystemWindows="true"
```

```
app.headerLayout="@layout/nav_header_main"
app.menu="@menu/activity_main_drawer" />
</androidx.drawerlayout.widget.DrawerLayout>
```

activity_main_drawer.xml

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

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

tools:showIn="navigation_view">

<group android:checkableBehavior="single">

<item

android:id="@+id/nav_home"

android:icon="@drawable/ic_menu_camera"

android:title="@string/menu_home" />

<item

android:id="@+id/nav_gallery"

android:icon="@drawable/ic_menu_gallery"

android:title="@string/menu_gallery" />

<item

android:id="@+id/nav_slideshow"

android:icon="@drawable/ic_menu_slideshow"

android:title="@string/menu_slideshow" />

<item

android:id="@+id/nav_contacts"

android:icon="@drawable/ic_baseline_contacts_24"

android:title="@string/menu_contacts" />

</group>

</menu>
```

Fragment Contact.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"

tools:context=".ui.contacts.ContactsFragments">
<TextView android:id="@+id/text_contacts"

android:layout_width="match_parent"

android:layout_height="wrap_content"

    android:layout_marginStart="8dp"

    android:layout_marginTop="8dp"

    android:layout_marginEnd="8dp"

    android:textAlignment="center"

    android:textSize="20sp"

app:layout_constraintBottom_toBottomOf="parent"

app:layout_constraintEnd_toEndOf="parent"

app:layout_constraintStart_toStartOf="parent"

app:layout_constraintTop_toTopOf="parent" />
</androidx.constraintlayout.widget.ConstraintLayout>
```

Fragment gallery.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"

tools:context=".ui.gallery.GalleryFragment">
```

```
<TextView android:id="@+id/text_gallery"
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:layout_marginStart="8dp"
android:layout_marginTop="8dp"
android:layout_marginEnd="8dp"
android:textAlignment="center"
android:textSize="20sp"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintStart_toStartOf="parent" app:layout_constraintTop_toTopOf="parent" />
</androidx.constraintlayout.widget.ConstraintLayout>
```

Fragment home.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"
tools:context=".ui.home.HomeFragment">
<TextView android:id="@+id/text_home"
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:layout_marginStart="8dp"
android:layout_marginTop="8dp"
android:layout_marginEnd="8dp"
android:textAlignment="center"
android:textSize="20sp"
app:layout_constraintBottom_toBottomOf="parent"
```

```
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent" />

</androidx.constraintlayout.widget.ConstraintLayout>
```

Fragment slideshow.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"
    tools:context=".ui.slideshow.SlideshowFragment">

    <TextView android:id="@+id/text_slideshow"

        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_marginStart="8dp"
        android:layout_marginTop="8dp"
        android:layout_marginEnd="8dp"
        android:textAlignment="center"
        android:textSize="20sp"

        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

</androidx.constraintlayout.widget.ConstraintLayout>
```

Mobile Navigation.xml

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



```

<navigation 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/mobile_navigation"

app:startDestination="@+id/nav_home">

<fragment android:id="@+id/nav_home"

    android:name="com.example.navigationco4_q5.ui.home.HomeFragment"
    android:label="@string/menu_home"

    tools:layout="@layout/fragment_home" />

<fragment android:id="@+id/nav_gallery"

    android:name="com.example.navigationco4_q5.ui.gallery.GalleryFragment"
    android:label="@string/menu_gallery"

    tools:layout="@layout/fragment_gallery" />

<fragment android:id="@+id/nav_slideshow"

    android:name="com.example.navigationco4_q5.ui.slideshow.SlideshowFragment"
    android:label="@string/menu_slideshow"

    tools:layout="@layout/fragment_slideshow" />

<fragment android:id="@+id/nav_contacts"

    android:name="com.example.navigationco4_q5.ui.contacts.ContactsFragments"
    android:label="@string/menu_contacts"

    tools:layout="@layout/fragment_contacts" />

</navigation>

```

Nav Header Main.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"

    android:layout_width="match_parent"

    android:layout_height="@dimen/nav_header_height"

    android:background="@drawable/side_nav_bar"

    android:gravity="bottom"

    android:orientation="vertical"

```

```
android:paddingLeft="@dimen/activity_horizontal_margin"
android:paddingTop="@dimen/activity_vertical_margin"
android:paddingRight="@dimen/activity_horizontal_margin"
android:paddingBottom="@dimen/activity_vertical_margin"
android:theme="@style/ThemeOverlay.AppCompat.Dark">
```

```
<ImageView android:id="@+id/imageView"
```

```
    android:layout_width="wrap_content"
```

```
    android:layout_height="wrap_content"
```

```
    android:contentDescription="@string/nav_header_desc"
```

```
    android:paddingTop="@dimen/nav_header_vertical_spacing"
```

```
    app:srcCompat="@drawable/puppy" />
```

```
<TextView
```

```
    android:layout_width="match_parent"
```

```
    android:layout_height="wrap_content"
```

```
    android:paddingTop="@dimen/nav_header_vertical_spacing"
```

```
    android:text="@string/nav_header_title"
```

```
    android:textAppearance="@style/TextAppearance.AppCompat.Body1" />
```

```
<TextView
```

```
    android:id="@+id/textView"
```

```
    android:layout_width="wrap_content"
```

```
    android:layout_height="wrap_content"
```

```
    android:text="@string/nav_header_subtitle" />
```

```
</LinearLayout>
```

JAVA CODE:

MainActivity.java

package com.example.navigationco4_q5;

import android.os.Bundle; import android.view.View; import android.view.Menu;

import com.google.android.material.snackbar.Snackbar;

import com.google.android.material.navigation.NavigationView;

import androidx.navigation.NavController; import androidx.navigation.Navigation;

import androidx.navigation.ui.AppBarConfiguration; import androidx.navigation.ui.NavigationUI;

import androidx.drawerlayout.widget.DrawerLayout; import
androidx.appcompat.app.AppCompatActivity;

import com.example.navigationco4_q5.databinding.ActivityMainBinding; public class MainActivity
extends AppCompatActivity {

private AppBarConfiguration mAppBarConfiguration; private ActivityMainBinding binding;

@Override

protected void onCreate(Bundle savedInstanceState) { super.onCreate(savedInstanceState);

binding = ActivityMainBinding.inflate(getLayoutInflater()); setContentView(binding.getRoot());

setSupportActionBar(binding.appBarMain.toolbar); binding.appBarMain.fab.setOnClickListener(new
View.OnClickListener() {

@Override

public void onClick(View view) {

Snackbar.make(view, "Replace with your own action", Snackbar.LENGTH_LONG)

.setAction("Action", null).show();

}

```
});
```

```
DrawerLayout drawer = binding.drawerLayout;
```

```
NavigationView navigationView = binding.navView;
```

```
// Passing each menu ID as a set of Ids because each
```

```
// menu should be considered as top level destinations. mAppBarConfiguration = new  
AppBarConfiguration.Builder(
```

```
R.id.nav_home, R.id.nav_gallery, R.id.nav_slideshow , R.id.nav_contacts)
```

```
.setOpenableLayout(drawer)
```

```
.build();
```

```
NavController navController = Navigation.findNavController(this,  
R.id.nav_host_fragment_content_main); NavigationUI.setupActionBarWithNavController(this,  
navController, mAppBarConfiguration); NavigationUI.setupWithNavController(navigationView,  
navController);
```

```
}
```

```
@Override
```

```
public boolean onCreateOptionsMenu(Menu menu) {
```

```
// Inflate the menu; this adds items to the action bar if it is present.  
getMenuInflater().inflate(R.menu.main, menu);
```

```
return true;
```

```
}
```

```
@Override
```

```
public boolean onSupportNavigateUp() {
```

```
NavController navController = Navigation.findNavController(this,  
R.id.nav_host_fragment_content_main); return NavigationUI.navigateUp(navController,  
mAppBarConfiguration)
```

```
// super.onSupportNavigateUp();
```

```
}
```

```
}
```

```
ContactFragments.java
```

```
package com.example.navigationco4_q5.ui.contacts;

import android.os.Bundle;
import android.view.LayoutInflater; import android.view.View;
import android.view.ViewGroup; import android.widget.TextView;

import androidx.annotation.NonNull; import androidx.annotation.Nullable; import
androidx.fragment.app.Fragment; import androidx.lifecycle.Observer;

import androidx.lifecycle.ViewModelProvider;

import com.example.navigationco4_q5.R;
import com.example.navigationco4_q5.databinding.FragmentContactsBinding; public class
ContactsFragments extends Fragment {

private ContactsViewModel ContactsViewModel; private FragmentContactsBinding binding;

public View onCreateView(@NonNull LayoutInflater inflater, ViewGroup container, Bundle
savedInstanceState) {

ContactsViewModel =
new ViewModelProvider(this).get(ContactsViewModel.class);

binding = FragmentContactsBinding.inflate(inflater, container, false); View root = binding.getRoot();

final TextView textView = binding.textContacts;
ContactsViewModel.getText().observe(getViewLifecycleOwner(), new Observer<String>() {

@Override

public void onChanged(@Nullable String s) { textView.setText(s);

}

});

return root;
```

```
}  
}
```

ContactsViewModel.java

```
package com.example.navigationco4_q5.ui.contacts;  
  
import androidx.lifecycle.LiveData;  
import androidx.lifecycle.MutableLiveData; import androidx.lifecycle.ViewModel;  
  
public class ContactsViewModel extends ViewModel { private MutableLiveData<String> mText;  
public ContactsViewModel() {  
mText = new MutableLiveData<>(); mText.setValue("This is contacts fragment");  
}  
  
public LiveData<String> getText() {  
  
return mText;  
}  
}
```

GalleryFragment.java

```
package com.example.navigationco4_q5.ui.gallery;  
  
import android.os.Bundle;  
import android.view.LayoutInflater; import android.view.View;  
import android.view.ViewGroup; import android.widget.TextView;  
  
import androidx.annotation.NonNull; import androidx.annotation.Nullable; import  
androidx.fragment.app.Fragment; import androidx.lifecycle.Observer;  
import androidx.lifecycle.ViewModelProvider;
```

```

import com.example.navigationco4_q5.R;

import com.example.navigationco4_q5.databinding.FragmentGalleryBinding; public class
GalleryFragment extends Fragment {

private GalleryViewModel galleryViewModel; private FragmentGalleryBinding binding;


public View onCreateView(@NonNull LayoutInflater inflater, ViewGroup container, Bundle
savedInstanceState) {

galleryViewModel =
new ViewModelProvider(this).get(GalleryViewModel.class);

binding = FragmentGalleryBinding.inflate(inflater, container, false); View root = binding.getRoot();

final TextView textView = binding.textGallery;
galleryViewModel.getText().observe(getViewLifecycleOwner(), new Observer<String>() {

@Override

public void onChanged(@Nullable String s) { textView.setText(s);

}

});

return root;

}

@Override

public void onDestroyView() { super.onDestroyView(); binding = null;

}

}

```

GalleryViewModel.java

```

package com.example.navigationco4_q5.ui.gallery;

import androidx.lifecycle.LiveData;

import androidx.lifecycle.MutableLiveData; import androidx.lifecycle.ViewModel;

```

```
public class GalleryViewModel extends ViewModel { private MutableLiveData<String> mText;
public GalleryViewModel() {
mText = new MutableLiveData<>(); mText.setValue("This is gallery fragment");
}

public LiveData<String> getText() { return mText;
}
}
```

HomeFragment.java

```
package com.example.navigationco4_q5.ui.home;

import android.os.Bundle;
import android.view.LayoutInflater; import android.view.View;
import android.view.ViewGroup; import android.widget.TextView;

import androidx.annotation.NonNull;

import androidx.annotation.Nullable; import androidx.fragment.app.Fragment; import
androidx.lifecycle.Observer;

import androidx.lifecycle.ViewModelProvider;

import com.example.navigationco4_q5.R;
import com.example.navigationco4_q5.databinding.FragmentHomeBinding; public class HomeFragment
extends Fragment {

private HomeViewModel homeViewModel; private FragmentHomeBinding binding;

public View onCreateView(@NonNull LayoutInflater inflater, ViewGroup container, Bundle
savedInstanceState) {

homeViewModel =
new ViewModelProvider(this).get(HomeViewModel.class);
```



```
binding = FragmentHomeBinding.inflate(inflater, container, false); View root = binding.getRoot();
```

```
final TextView textView = binding.textHome;
homeViewModel.getText().observe(getViewLifecycleOwner(), new Observer<String>() {

@Override

public void onChanged(@Nullable String s) { textView.setText(s);

}

});

return root;

}
```

```
@Override

public void onDestroyView() { super.onDestroyView(); binding = null;

}

}
```

HomeViewModel.java

```
package com.example.navigationco4_q5.ui.home;
```

```
import androidx.lifecycle.LiveData;
```

```
import androidx.lifecycle.MutableLiveData; import androidx.lifecycle.ViewModel;
```

```
public class HomeViewModel extends ViewModel { private MutableLiveData<String> mText;

public HomeViewModel() {

mText = new MutableLiveData<>(); mText.setValue("This is home fragment");

}
```

```
public LiveData<String> getText() { return mText;

}

}
```

SlideshowFragment.java

```
package com.example.navigationco4_q5.ui.slideshow;

import android.os.Bundle;
import android.view.LayoutInflater; import android.view.View;
import android.view.ViewGroup; import android.widget.TextView;

import androidx.annotation.NonNull; import androidx.annotation.Nullable; import
androidx.fragment.app.Fragment; import androidx.lifecycle.Observer;
import androidx.lifecycle.ViewModelProvider;

import com.example.navigationco4_q5.R;
import com.example.navigationco4_q5.databinding.FragmentSlideshowBinding; public class
SlideshowFragment extends Fragment {

    private SlideshowViewModel slideshowViewModel; private FragmentSlideshowBinding binding;

    public View onCreateView(@NonNull LayoutInflater inflater, ViewGroup container, Bundle
savedInstanceState) {

        slideshowViewModel =
            new ViewModelProvider(this).get(SlideshowViewModel.class);

        binding = FragmentSlideshowBinding.inflate(inflater, container, false); View root = binding.getRoot();

        final TextView textView = binding.textSlideshow;
        slideshowViewModel.getText().observe(getViewLifecycleOwner(), new Observer<String>() {

            @Override

            public void onChanged(@Nullable String s) { textView.setText(s);

            }

        });

        return root;

    }

}
```

```
@Override
```

```
public void onDestroyView() { super.onDestroyView(); binding = null;
```

```
}
```

```
}
```

SlideshowViewModel.java

```
package com.example.navigationco4_q5.ui.slideshow;
```

```
import androidx.lifecycle.LiveData;
```

```
import androidx.lifecycle.MutableLiveData; import androidx.lifecycle.ViewModel;
```

```
public class SlideshowViewModel extends ViewModel { private MutableLiveData<String> mText;
```

```
public SlideshowViewModel() {
```

```
mText = new MutableLiveData<>(); mText.setValue("This is slideshow fragment");
```

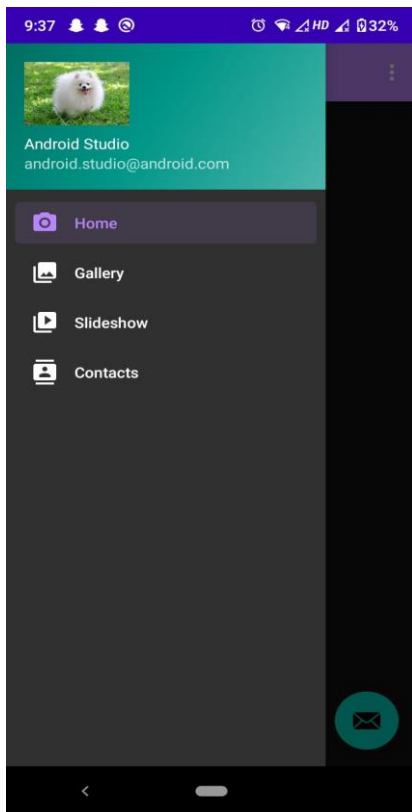
```
}
```

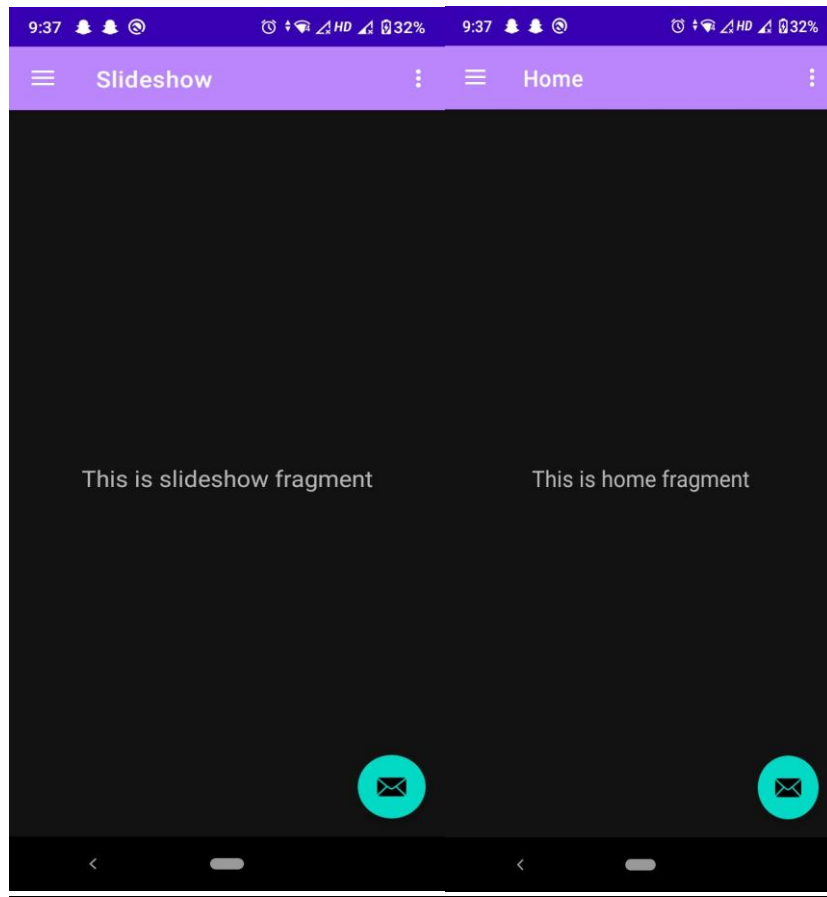
```
public LiveData<String> getText() { return mText;
```

```
}
```

```
}
```

OUTPUT





RESULT: The program executed successfully and output is obtained