

COURSE OUTCOME - 4

PROGRAM - 14

AIM:

Develop an application that uses GridView with images and displays an Alert box on selection.

PROGRAM CODE:

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  
};  
}
```

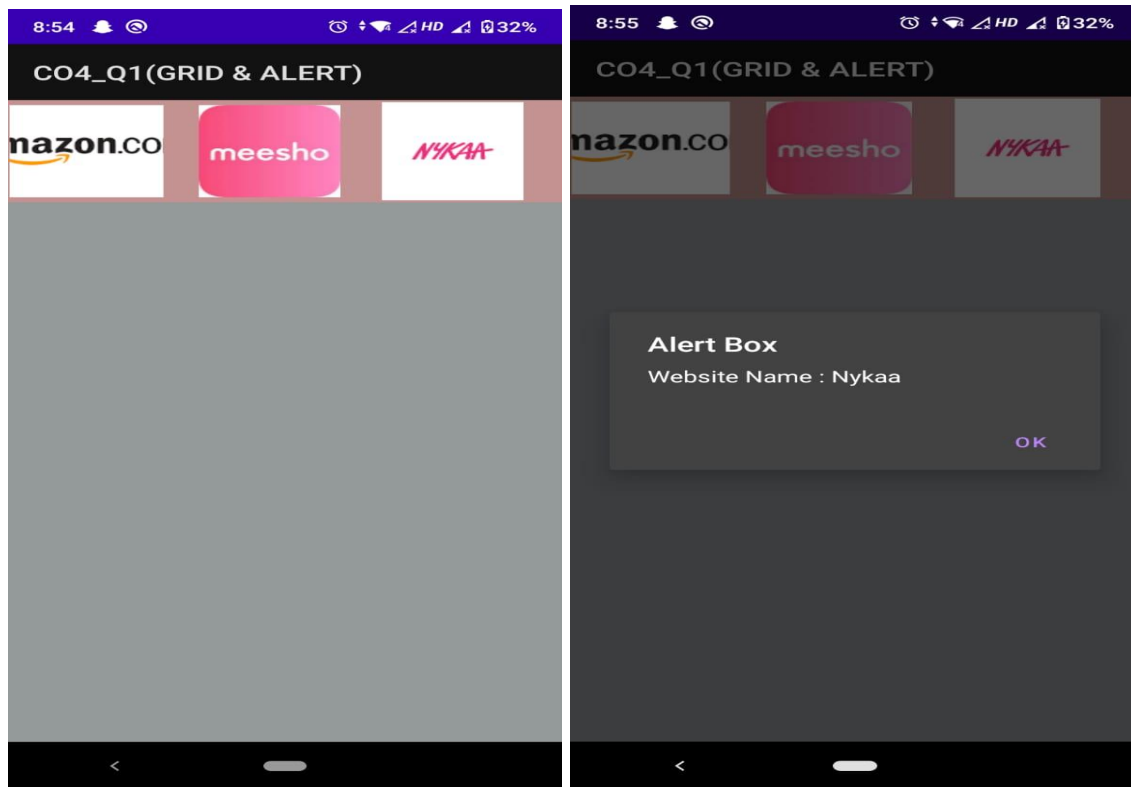
XML CODE:

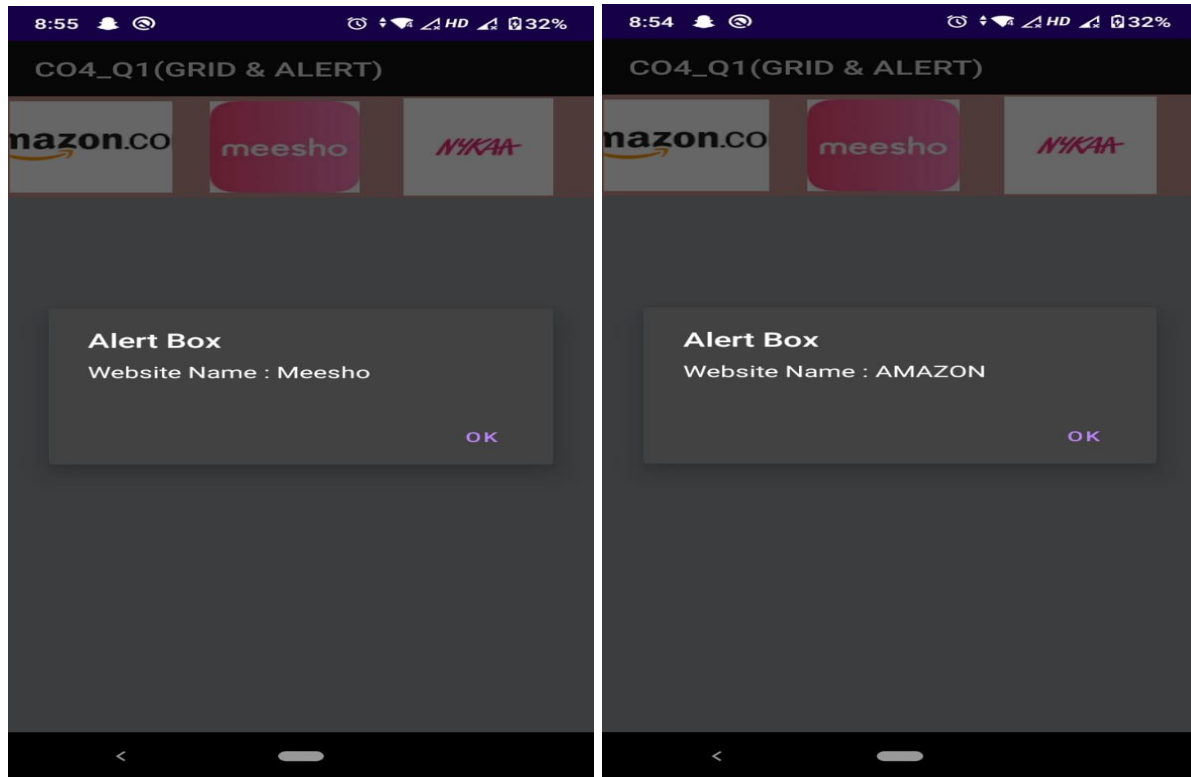
```
<?xml version="1.0" encoding="utf-8"?>  
  
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"  
    xmlns:app="http://schemas.android.com/apk/res-auto"  
    xmlns:tools="http://schemas.android.com/tools"  
    android:layout_width="match_parent"  
    android:layout_height="match_parent"  
    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>
```

OUTPUT:





RESULT:

The program executed successfully and obtained the output.

PROGRAM - 15

AIM:

Develop an application that implements Spinner component and perform event handling

PROGRAM CODE:

JAVA CODE:

```
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 = { "SHANA", "ANUSHREE", "ANILA", "NOVRIN", "HELNA", "OTHERS" };

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        //Getting the instance of Spinner and applying OnItemSelectedListener on it
        Spinner spin = (Spinner) findViewById(R.id.coursesspinner);
        spin.setOnItemSelectedListener(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<?> arg0) {
    // TODO Auto-generated method stub
}
}

```

XML CODE:

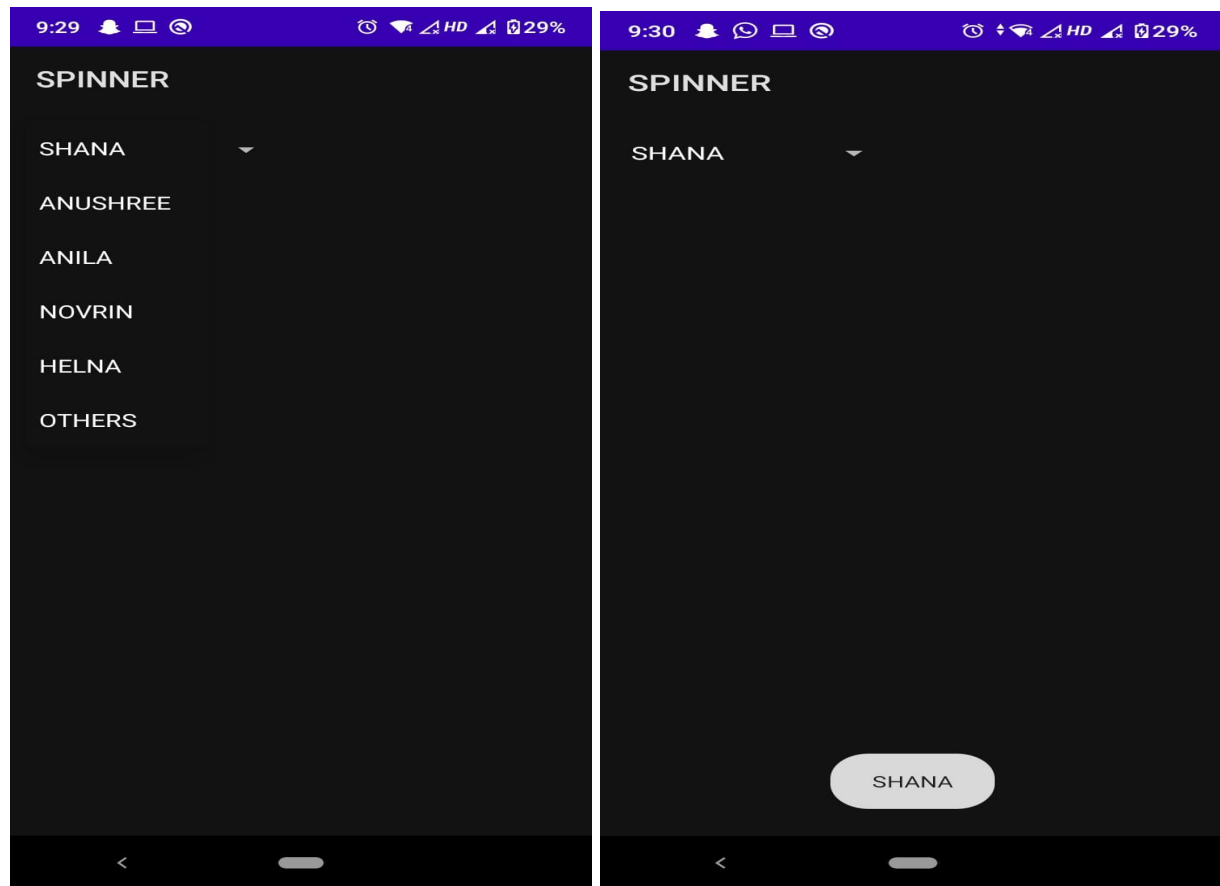
```

<?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>

```

OUTPUT:



RESULT:

The program executed successfully and obtained the output.

PROGRAM - 16

AIM:

Apply themes via code and manifest file

PROGRAM CODE:

JAVA CODE:

MainActivity.java

```
package com.example.themes;

import androidx.appcompat.app.AppCompatActivity;

import android.content.Intent;

import android.os.Bundle;

import android.view.View;

import com.example.manifest.R;

public class MainActivity extends AppCompatActivity {

    @Override

    protected void onCreate(Bundle savedInstanceState) {

        super.onCreate(savedInstanceState);

        setContentView(R.layout.activity_main);

    }

    public void onSubmit(View view){

        Intent i = new Intent(getApplicationContext(), MainActivity2.class);

        startActivity(i);

    }

}
```

MainActivity2.java

```
package com.example.themes;

import androidx.appcompat.app.AppCompatActivity;

import android.content.Intent;

import android.os.Bundle;

import android.view.View;

import com.example.manifest.R;

public class MainActivity2 extends AppCompatActivity {

    @Override

    protected void onCreate(Bundle savedInstanceState) {

        super.onCreate(savedInstanceState);

        setContentView(R.layout.activity_main2);

    }

    public void onReturn(View view){

        Intent i = new Intent(getApplicationContext(), MainActivity.class);

        startActivity(i);

    }

}
```

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"

android:background="#EBEDE8"

tools:context="com.example.themes.MainActivity">

<Button

android:id="@+id/button"

android:layout_width="132dp"

android:layout_height="48dp"

android:layout_marginStart="166dp"

android:layout_marginTop="121dp"

android:layout_marginEnd="137dp"

android:layout_marginBottom="233dp"

android:background="#421515"

android:backgroundTint="#712424"

android:onClick="onSubmit"

android:text="CHANGE"

android:textColorHighlight="#3E2C2C"

android:textStyle="bold"

app:layout_constraintBottom_toBottomOf="parent"

app:layout_constraintEnd_toEndOf="parent"

```
app:layout_constraintHorizontal_bias="1.0"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toBottomOf="@+id/imageView"
app:layout_constraintVertical_bias="0.0"
app:rippleColor="#220404" />
```

<ImageView

```
android:id="@+id/imageView"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_marginStart="92dp"
android:layout_marginTop="40dp"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent"
app:srcCompat="@drawable/d2" />
```

</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"
```

android:background="#EBEDE8"

tools:context="com.example.themes.MainActivity2">

<Button

android:id="@+id/button"

android:layout_width="132dp"

android:layout_height="48dp"

android:layout_marginStart="166dp"

android:layout_marginTop="121dp"

android:layout_marginEnd="137dp"

android:layout_marginBottom="233dp"

android:background="#421515"

android:backgroundTint="#712424"

android:onClick="onSubmit"

android:text="CHANGE"

android:textColorHighlight="#3E2C2C"

android:textStyle="bold"

app:layout_constraintBottom_toBottomOf="parent"

app:layout_constraintEnd_toEndOf="parent"

app:layout_constraintHorizontal_bias="1.0"

app:layout_constraintStart_toStartOf="parent"

app:layout_constraintTop_toBottomOf="@+id/imageView"

app:layout_constraintVertical_bias="0.0"

```
app:rippleColor="#220404" />
```

```
<ImageView
```

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

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

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

```
    android:layout_marginStart="92dp"
```

```
    android:layout_marginTop="40dp"
```

```
    app:layout_constraintStart_toStartOf="parent"
```

```
    app:layout_constraintTop_toTopOf="parent"
```

```
    app:srcCompat="@drawable/d2" />
```

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

Themes.xml

```
<resources xmlns:tools="http://schemas.android.com/tools">
```

```
    <!-- Base application theme. -->
```

```
    <style name="Theme.Manifest"  
        parent="Theme.MaterialComponents.DayNight.DarkActionBar">
```

```
        <!-- Primary brand color. -->
```

```
        <item name="colorPrimary">@color/purple_200</item>
```

```
        <item name="colorPrimaryVariant">@color/teal_700</item>
```

```
        <item name="colorOnPrimary">@color/teal_200</item>
```

```
        <!-- Secondary brand color. -->
```

```
        <item name="colorSecondary">@color/purple_500</item>
```

```
        <item name="colorSecondaryVariant">@color/purple_200</item>
```



```

        <item name="colorOnSecondary">@color/teal_700</item>

        <!-- Status bar color. -->

        <item name="android:statusBarColor"
tools:targetApi="l">?attr/colorPrimaryVariant</item>

        <!-- Customize your theme here. -->

</style>

<style name="Theme.Manifest1"
parent="Theme.MaterialComponents.DayNight.DarkActionBar">

        <!-- Primary brand color. -->

        <item name="colorPrimary">#888038</item>

        <item name="colorPrimaryVariant">#D17AE1</item>

        <item name="colorOnPrimary">@color/teal_700</item>

        <!-- Secondary brand color. -->

        <item name="colorSecondary">@color/purple_200</item>

        <item name="colorSecondaryVariant">#E91E63</item>

        <item name="colorOnSecondary">#00BCD4</item>

        <!-- Status bar color. -->

        <item name="android:statusBarColor"
tools:targetApi="l">?attr/colorPrimaryVariant</item>

        <!-- Customize your theme here. -->

</style>

</resources>

```

AndroidManifest.xml

```

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

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

```

```
package="com.example.manifest">
```

```
<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.Manifest">
```

```
        <activity
```

```
            android:name="com.example.themes.MainActivity2"
```

```
            android:exported="false"
```

```
            android:theme="@style/Theme.Manifest1"/>
```

```
        <activity
```

```
            android:name="com.example.themes.MainActivity"
```

```
            android:exported="true">
```

```
            <intent-filter>
```

```
                <action android:name="android.intent.action.MAIN" />
```

```
                <category android:name="android.intent.category.LAUNCHER" />
```

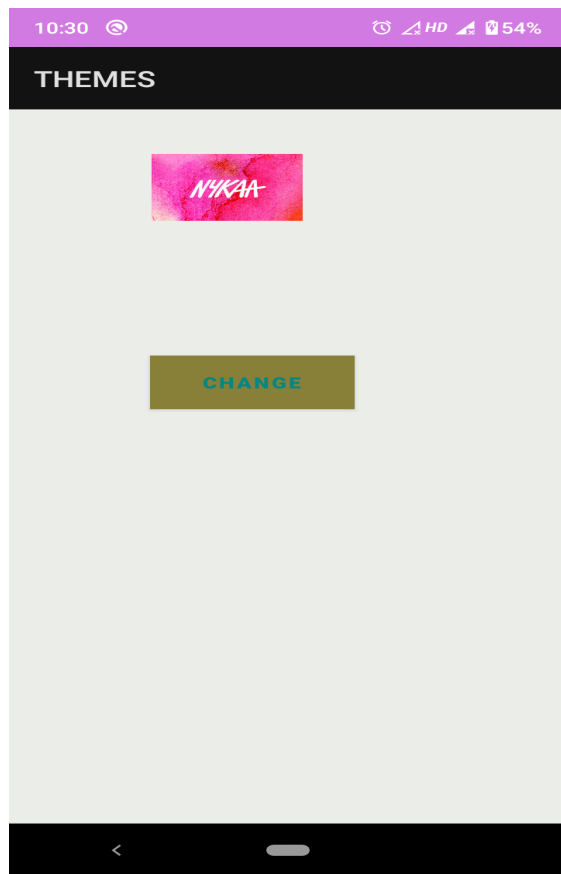
```
            </intent-filter>
```

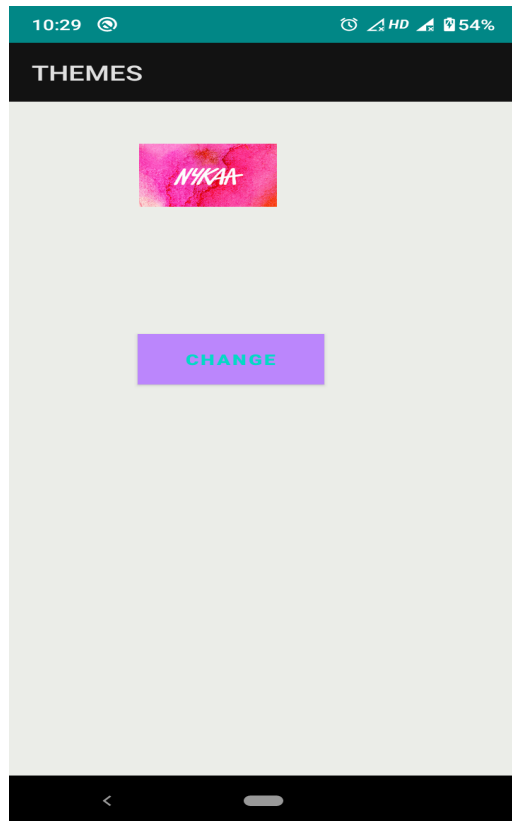
```
        </activity>
```

```
    </application>
```

```
</manifest>
```

OUTPUT:





RESULT:

The program executed successfully and obtained the output.

PROGRAM - 17

AIM:

Develop application using Fragments

PROGRAM CODE:

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();
    }
}
```

Fragment_1.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);
    }
}

```

Fragment_2.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);
    }
}

```

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="fragement2Start"
        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="fragement1Start"
        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>
Fragment_1.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="HELLOO"
        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>

```

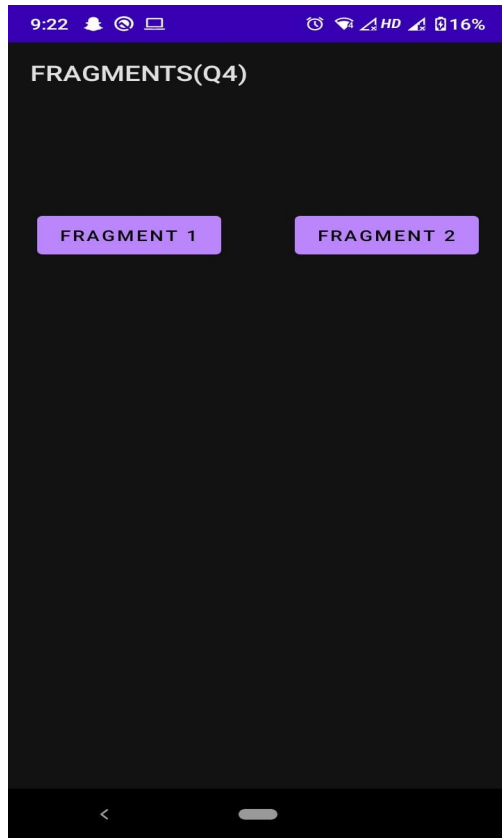
Fragment_2.xml

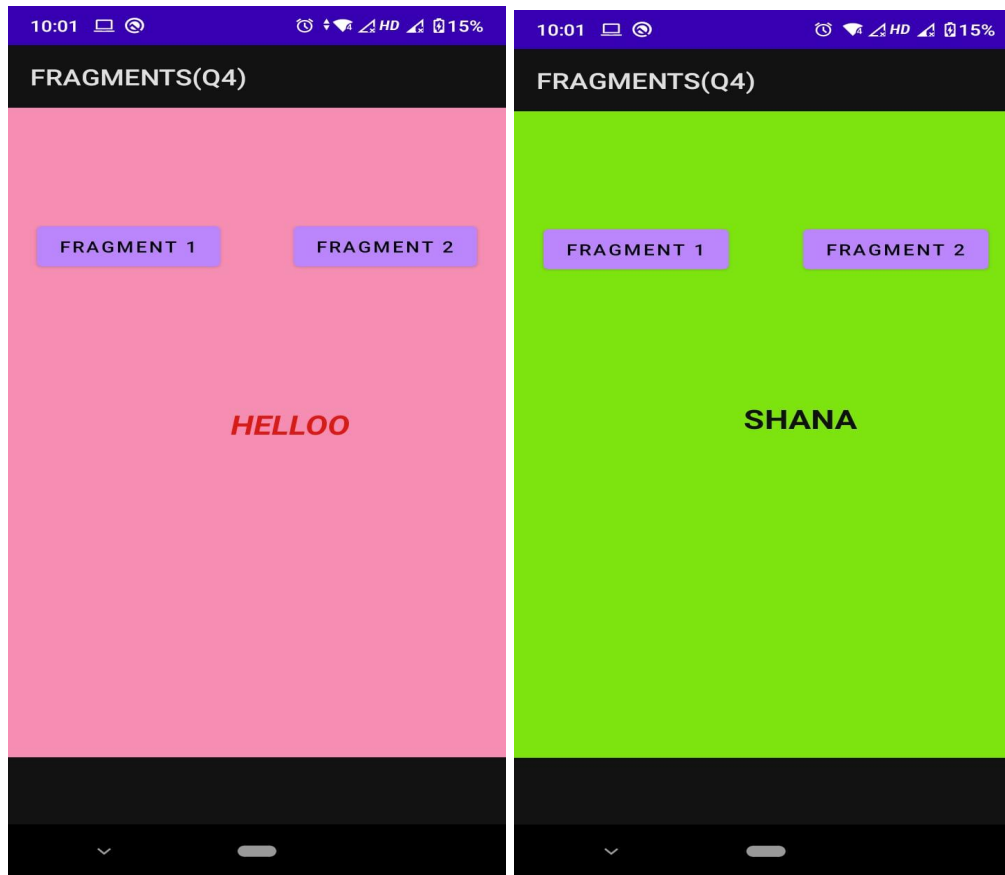
```

<?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="SHANA"
        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>

```


OUTPUT:





RESULT:

The program executed successfully and obtained the output.

PROGRAM - 18

AIM:

Implement a Navigation drawer.

PROGRAM CODE:

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();
    }
}

```

ContactsFragments.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;
    }
}

```

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.NavigationView
        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>
```

Fragments_contacts.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>
```

Fragments_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>

```

Fragments_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>

```

Fragments_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>

```

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>

```

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>

```

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"

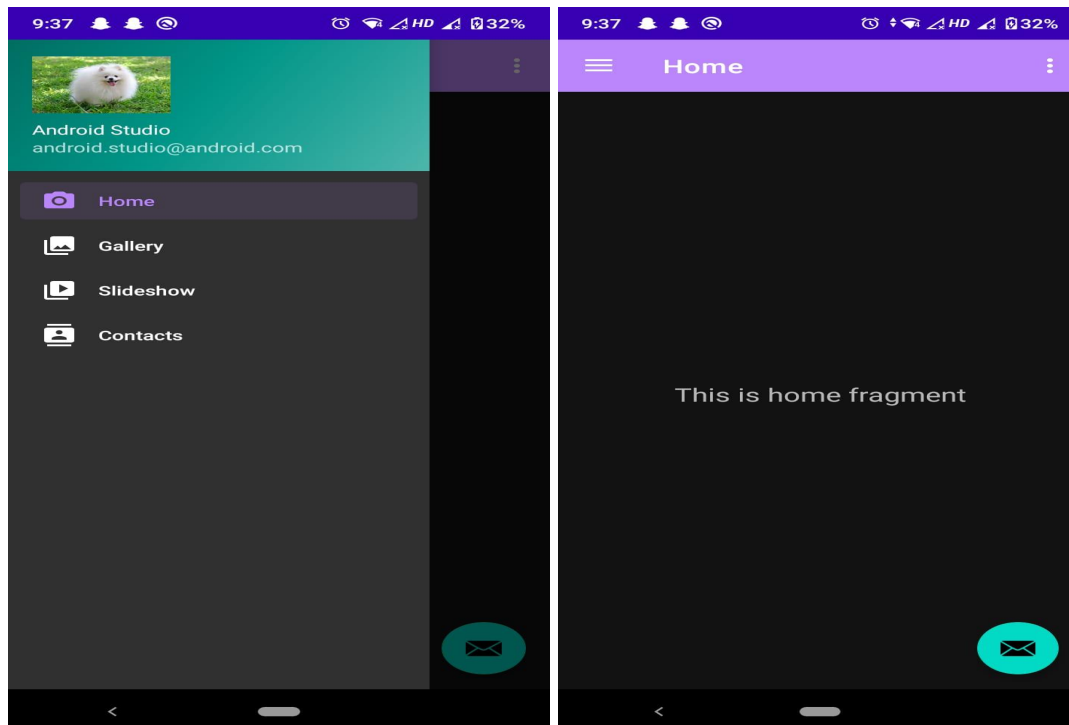
```

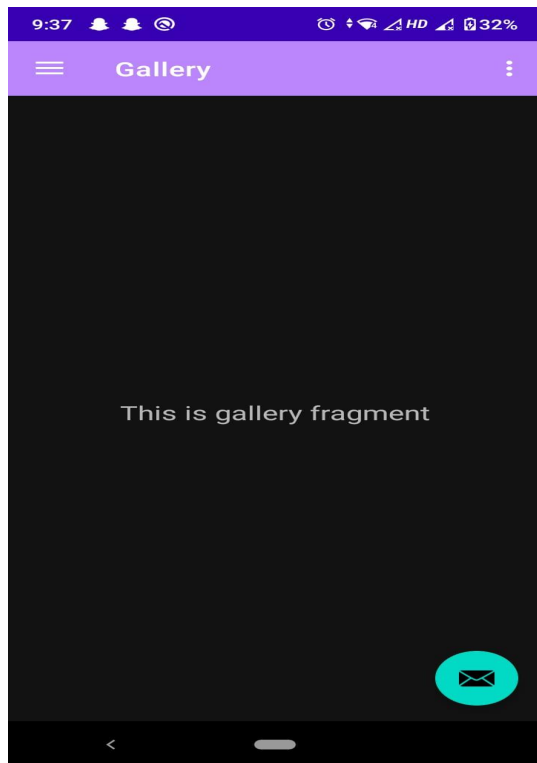
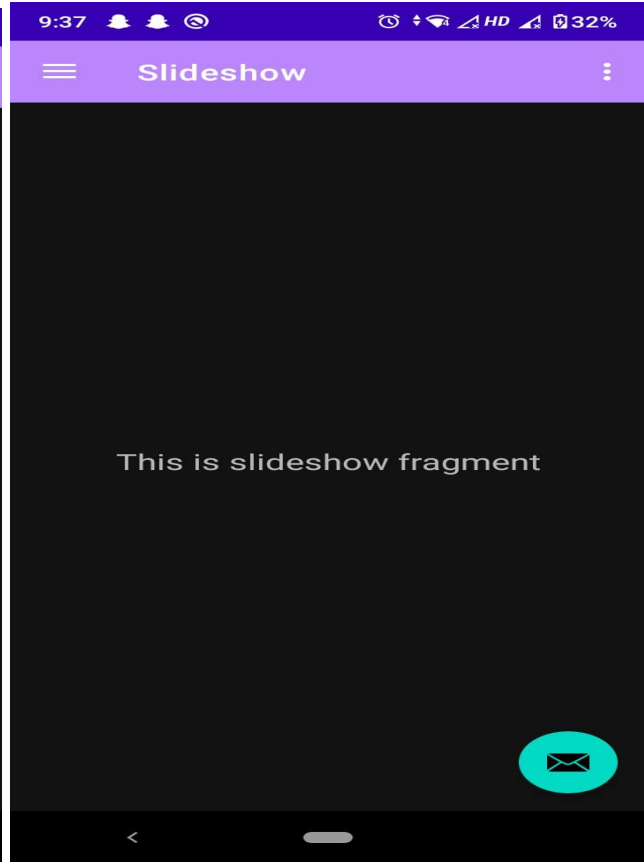
```

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>

```

OUTPUT:





RESULT: The program executed successfully and obtained the output.