
COURSE OUTCOME-4

PROGRAM 1

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

PROGRAM CODE

MainActivity.java	<pre>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.AdapterView.OnItemClickListener; 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() {</pre>
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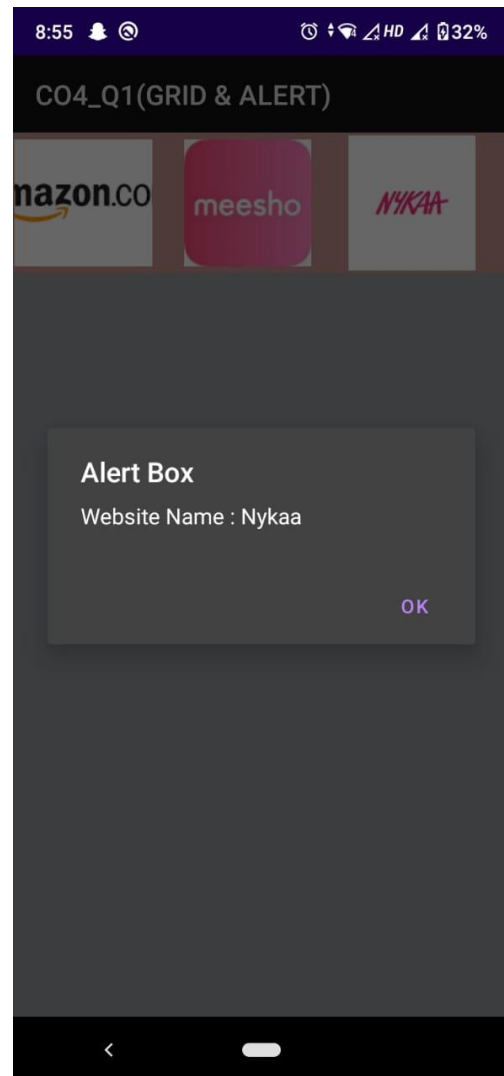
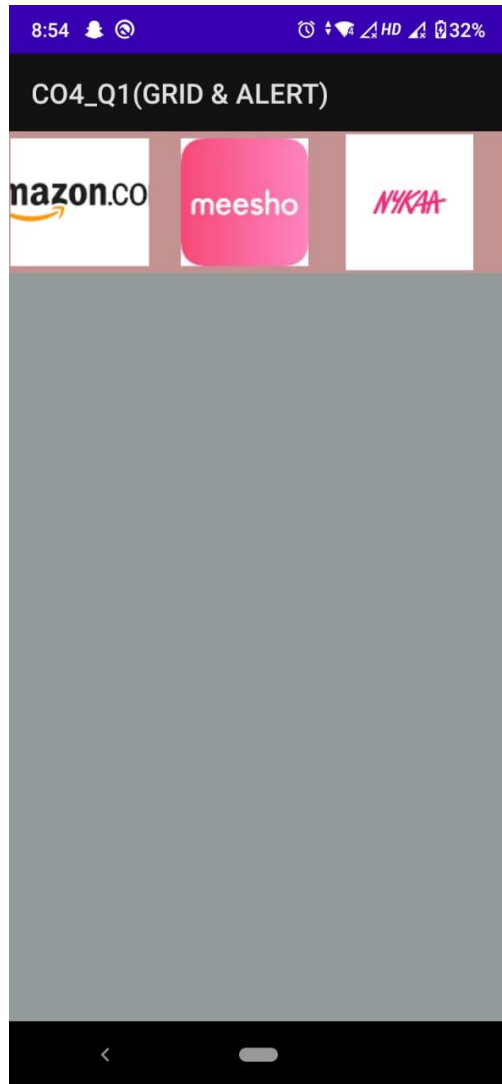
	<pre> public void onClick(DialogInterface dialog, int id) { } }); AlertDialog alert = builder.create(); alert.setTitle("Alert Box"); alert.show(); } }); } } </pre>
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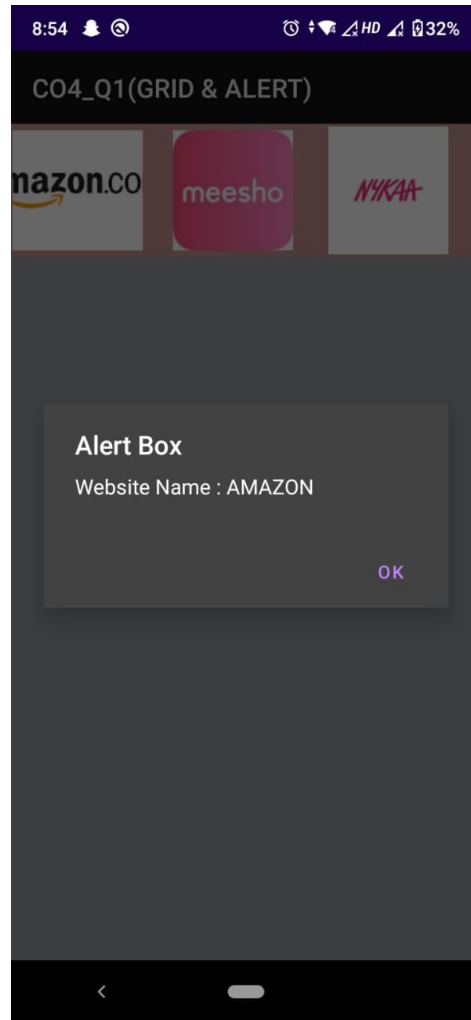
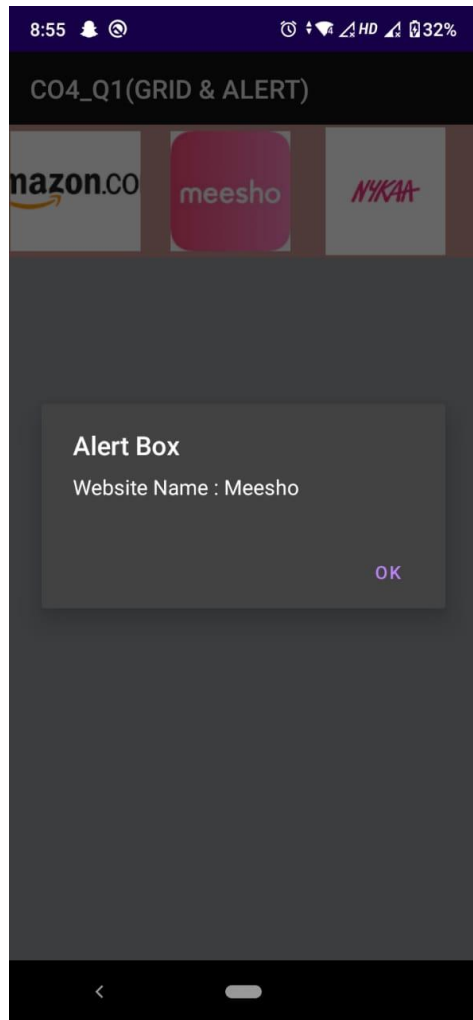
activity_main.xml	<pre> <?xml version="1.0" encoding="utf-8"?> <LinearLayout xmlns:android="http://schemas.android.com/apk/res/android" xmlns:app="http://schemas.android.com/apk/res-auto" xmlns:tools="http://schemas.android.com/tools" android:layout_width="match_parent" android:layout_height="match_parent" 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> </pre>
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ImageAdapter.java	<pre> 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; </pre>
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	<pre>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 }; }</pre>
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OUTPUT





RESULT: The above program is successfully executed and obtained the output.

PROGRAM 2

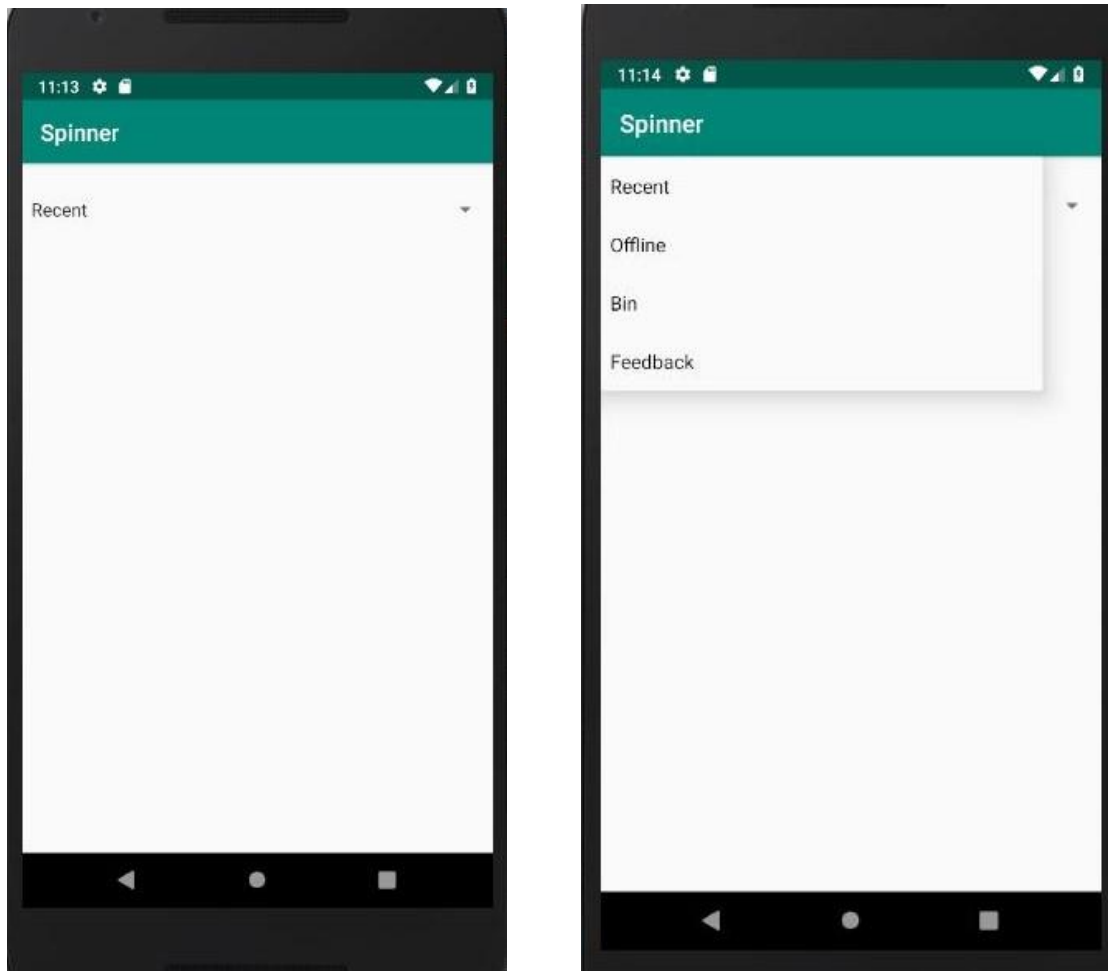
AIM: Develop an application that implements Spinner component and perform event handling

PROGRAM CODE

MainActivity.java	<pre>package com.example.admin.spinner; import android.support.v7.app.AppCompatActivity; import android.os.Bundle; import android.view.View; import android.widget.AdapterView; import android.widget.AdapterView.OnItemClickListener; import android.widget.ArrayAdapter; import android.widget.Spinner; import android.widget.Toast; public class MainActivity extends AppCompatActivity implements AdapterView.OnItemClickListener { String[] Options={"Recent","Offline","Bin","Feedback"}; @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.spinner); spin.setOnItemSelectedListener(this); //Creating the ArrayAdapter instance having the bank name list ArrayAdapter aa = new ArrayAdapter(this,android.R.layout.simple_spinner_item,Options); aa.setDropDownViewResource(android.R.layout.simple_spinner_dropd own_item); //Setting the ArrayAdapter data on the Spinner spin.setAdapter(aa); } //Performing action onItemSelected and onNothing selected @Override</pre>
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	<pre> public void onItemSelected(AdapterView<?> arg0, View arg1, int position,long id) { Toast.makeText(getApplicationContext(), Options[position], Toast.LENGTH_LONG).show(); } @Override public void onNothingSelected(AdapterView<?> arg0) { // TODO Auto-generated method stub } } </pre>
activity_main.xml	<pre> <?xml version="1.0" encoding="utf-8"?> <android.support.constraint.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"> <Spinner android:id="@+id/spinner" android:layout_width="match_parent" android:layout_height="80dp" /> </android.support.constraint.ConstraintLayout> </pre>

OUTPUT



RESULT: The above program is successfully executed and obtained the output.

PROGRAM 3

AIM: Apply themes via code and manifest file

PROGRAM CODE

MainActivity.java	<pre>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); } }</pre>
activity_main.xml	<pre><?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"</pre>

	<pre> 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> </pre>
MainActivity2. java	<pre> 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); } } </pre>
activity_main2. xml	<pre> <?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" </pre>

	<pre> 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> </pre>
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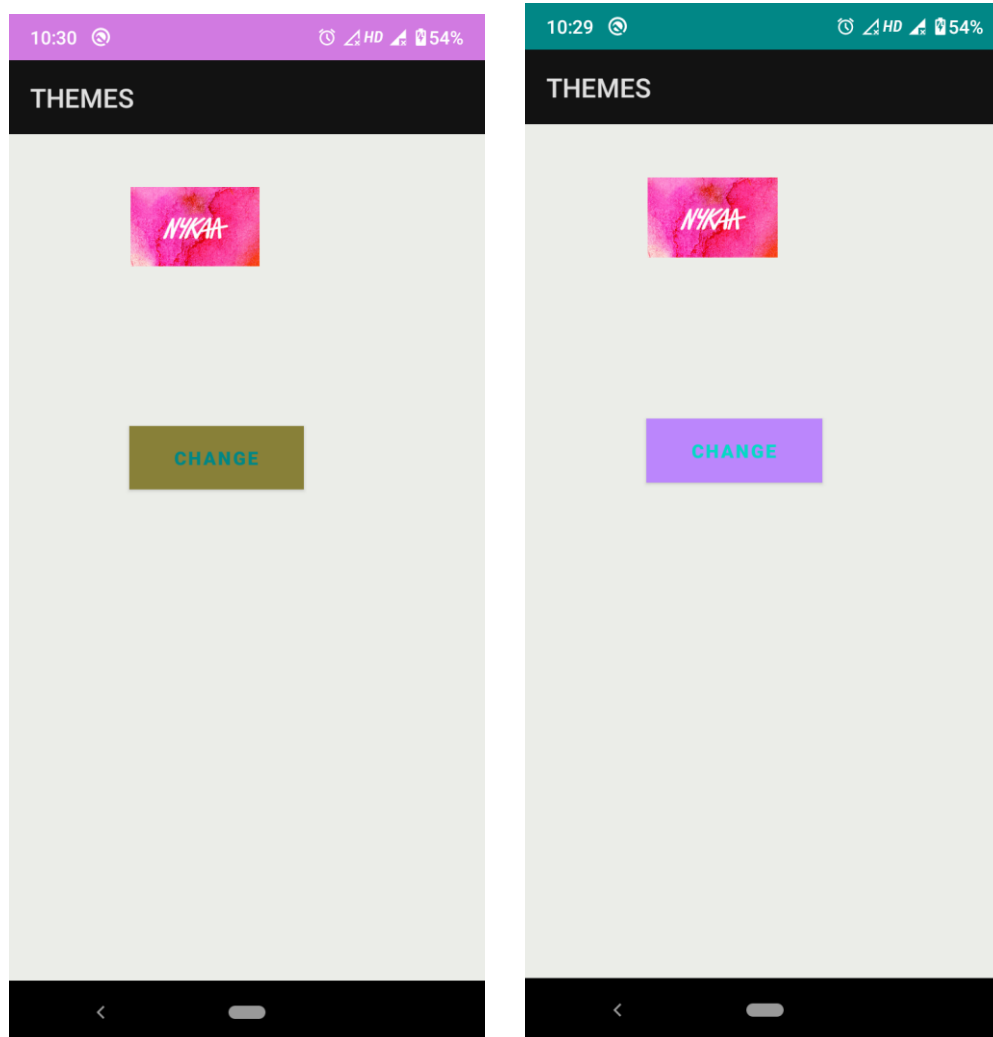
AndroidManifest.xml	<pre> <?xml version="1.0" encoding="utf-8"?> <manifest xmlns:android="http://schemas.android.com/apk/res/android" package="com.example.manifest"> <application </pre>
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	<pre> android:allowBackup="true" android:icon="@mipmap/ic_launcher" android:label="@string/app_name" android:roundIcon="@mipmap/ic_launcher_round" android:supportsRtl="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> </pre>
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Themes.xml	<pre> <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="1">?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> </pre>
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	<pre> <!-- 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="1">?attr/colorPrimaryVariant</item> <!-- Customize your theme here. --> </style> </resources> </pre>
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OUTPUT



RESULT: The above program is successfully executed and obtained the output.

PROGRAM 4

AIM: Develop application using Fragments

PROGRAM CODE:

MainActivity.java a	<pre>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(); } }</pre>
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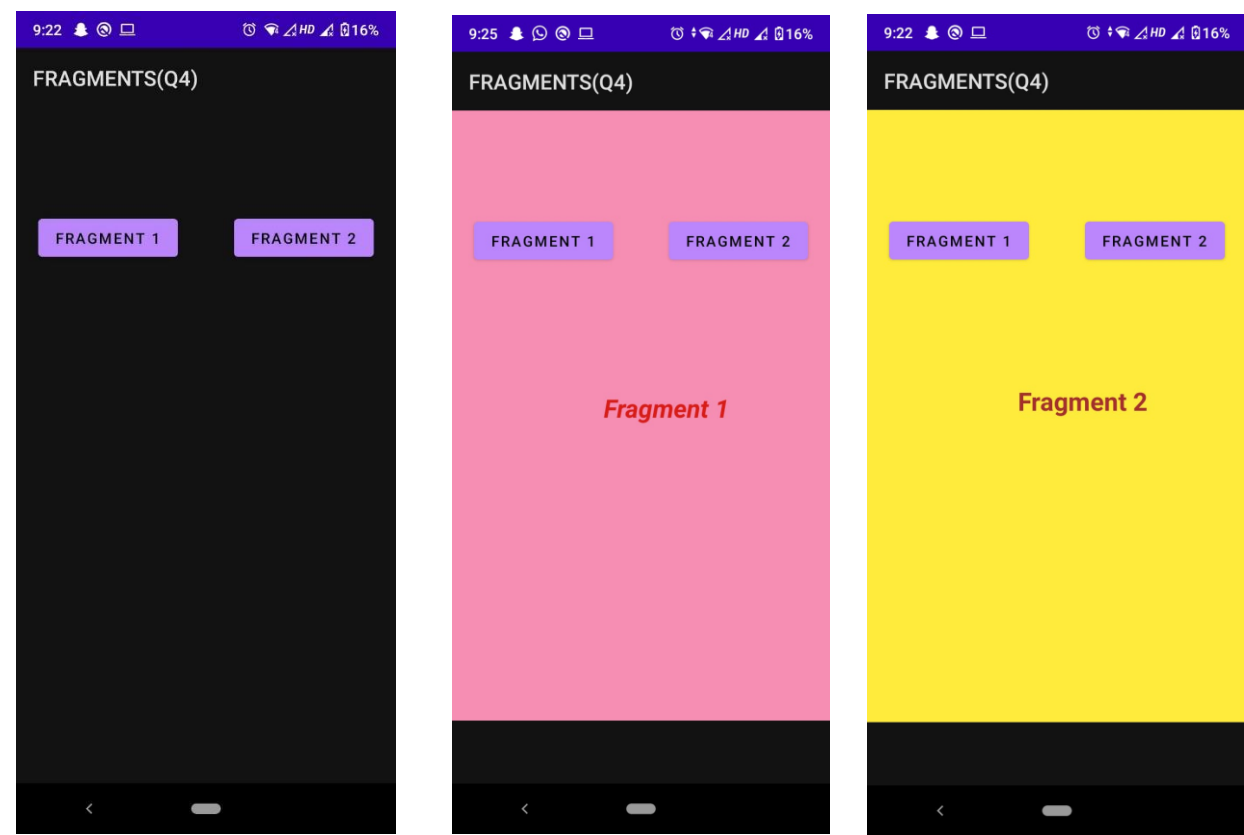
activity_main.xml 1	<pre> <?xml version="1.0" encoding="utf-8"?> <androidx.constraintlayout.widget.ConstraintLayout xmlns:android="http://schemas.android.com/apk/res/android" xmlns:app="http://schemas.android.com/apk/res-auto" xmlns:tools="http://schemas.android.com/tools" android:layout_width="match_parent" 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> </pre>
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Fragment_1.java	<pre> 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); } } </pre>
Fragment_1.xml	<pre> <?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" </pre>

	<pre> app:layout_constraintVertical_bias="0.499" /> </androidx.constraintlayout.widget.ConstraintLayout> </pre>
Fragment_2.java	<pre> 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); } } </pre>
Fragment_2.xml	<pre> <?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" </pre>

	<pre> app:layout_constraintBottom_toBottomOf="parent" app:layout_constraintEnd_toEndOf="parent" app:layout_constraintStart_toStartOf="parent" app:layout_constraintTop_toTopOf="parent" /> </androidx.constraintlayout.widget.ConstraintLayout> </pre>
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OUTPUT



RESULT: The above program is successfully executed and obtained the output.

PROGRAM 5

AIM: Implement Navigation drawer.

PROGRAM CODE:

MainActivity.java	<pre>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(); } });</pre>
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	<pre> 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(); } } </pre>
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activity_main.xml	<pre> <?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" </pre>
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	<pre> 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> </pre>
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Activity_main_drawer.xml	<pre> <?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> </pre>
ContactsFragments.java	<pre> 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; </pre>

	<pre> import com.example.navigationco4_q5.databinding.FragmentContactsBindi ng; 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; } } </pre>
Fragments_contacts.xml	<pre> <?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" </pre>

	<pre> app:layout_constraintStart_toStartOf="parent" app:layout_constraintTop_toTopOf="parent" /> </androidx.constraintlayout.widget.ConstraintLayout> </pre>
ContactsViewModel.java	<pre> 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; } } </pre>
GalleryFragment.java	<pre> 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.FragmentGalleryBindin g; 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); </pre>

	<pre> 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; } } </pre>
Fragments_gallery.xml	<pre> <?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> </pre>
GalleryViewModel.java	<pre> package com.example.navigationco4_q5.ui.gallery; import androidx.lifecycle.LiveData; import androidx.lifecycle.MutableLiveData; import androidx.lifecycle.ViewModel; </pre>

	<pre> 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; } } </pre>
HomeFragment.java	<pre> 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 </pre>

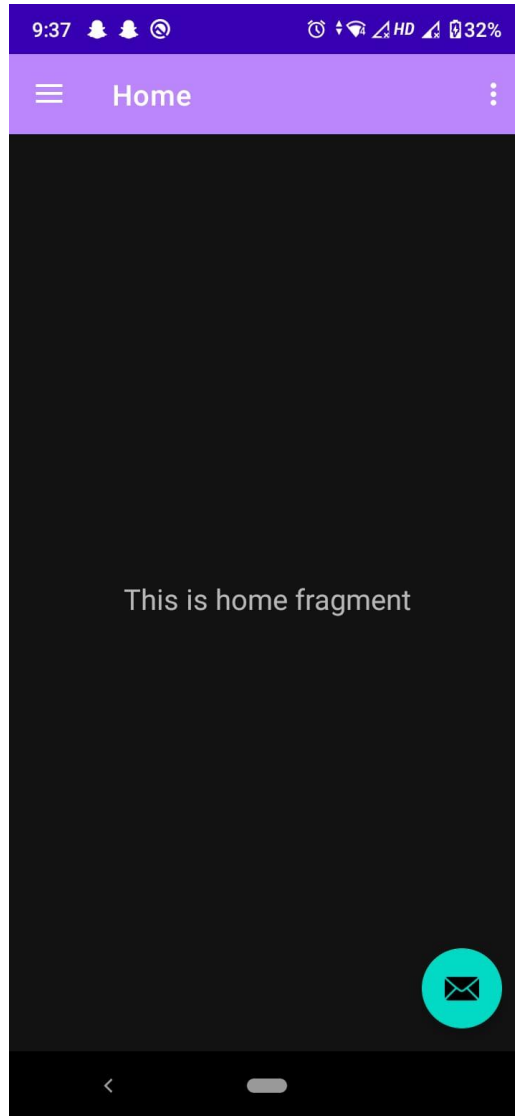
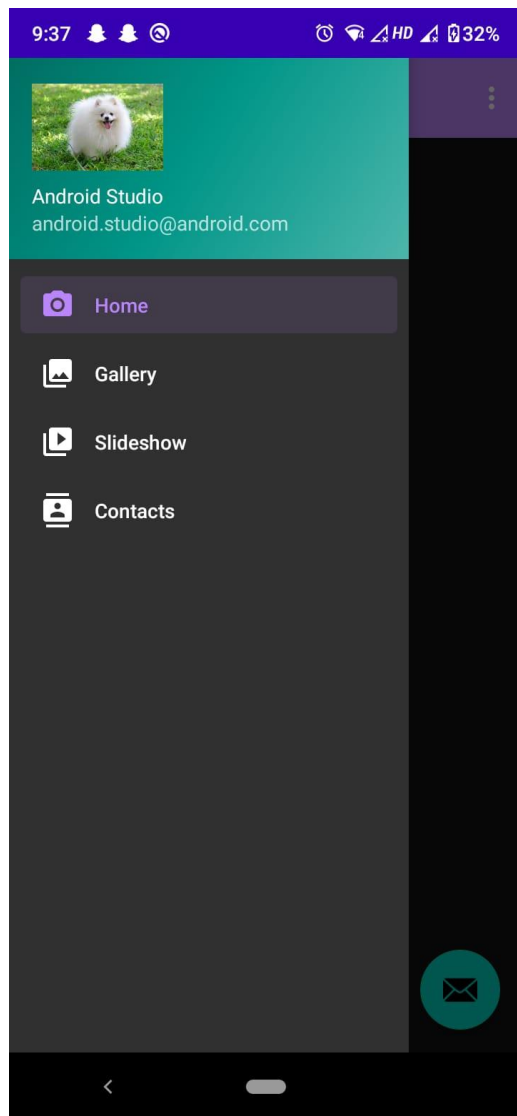
	<pre> public void onDestroyView() { super.onDestroyView(); binding = null; } } </pre>
Fragments_home.xml	<pre> <?xml version="1.0" encoding="utf-8"?> <androidx.constraintlayout.widget.ConstraintLayout xmlns:android="http://schemas.android.com/apk/res/android" xmlns:app="http://schemas.android.com/apk/res-auto" 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> </pre>
HomeViewModel.java	<pre> 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; } } </pre>
Fragments_slideshow.xml	<pre> <?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" </pre>

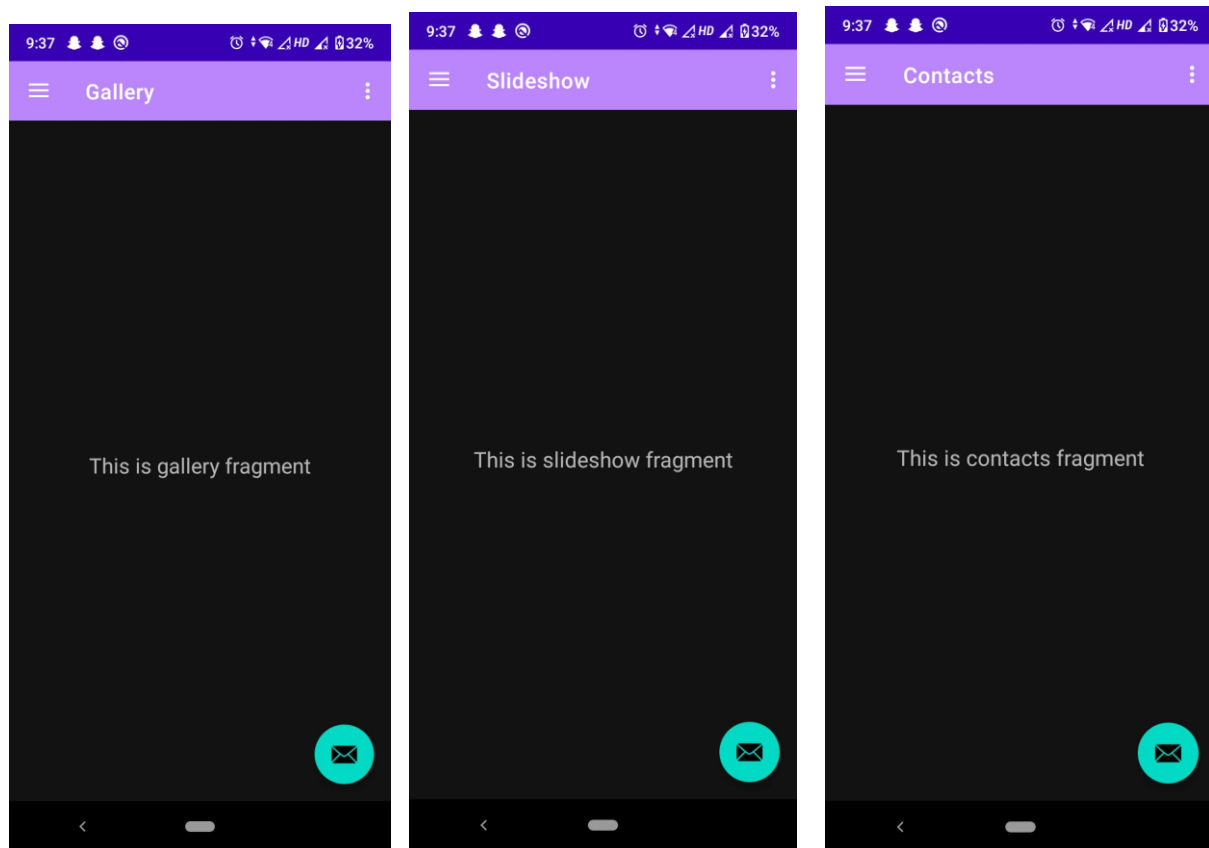
	<pre> android:layout_width="match_parent" android:layout_height="match_parent" tools:context=".ui.slideshow.SlideshowFragment"> <TextView android:id="@+id/text_slideshow" android:layout_width="match_parent" android:layout_height="wrap_content" android:layout_marginStart="8dp" android:layout_marginTop="8dp" 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> </pre>
Mobile_navigation.xml 1	<pre> <?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.HomeFrag ment" android:label="@string/menu_home" tools:layout="@layout/fragment_home" /> <fragment android:id="@+id/nav_gallery" android:name="com.example.navigationco4_q5.ui.gallery.GalleryFra gment" android:label="@string/menu_gallery" tools:layout="@layout/fragment_gallery" /> <fragment android:id="@+id/nav_slideshow" android:name="com.example.navigationco4_q5.ui.slideshow.Slidesh owFragment" android:label="@string/menu_slideshow" tools:layout="@layout/fragment_slideshow" /> <fragment android:id="@+id/nav_contacts" android:name="com.example.navigationco4_q5.ui.contacts.Contacts Fragments" android:label="@string/menu_contacts" tools:layout="@layout/fragment_contacts" /> </navigation> </pre>
Nav_header_main.xml	<pre> <?xml version="1.0" encoding="utf-8"?> </pre>

	<pre> <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.Body 1" /> <TextView android:id="@+id/textView" android:layout_width="wrap_content" android:layout_height="wrap_content" android:text="@string/nav_header_subtitle" /> </LinearLayout> </pre>
SlideshowFragment.java	<pre> 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; </pre>

	<pre> import com.example.navigationco4_q5.databinding.FragmentSlideshowBind ing; 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; } } </pre>
SlideshowViewModel .java	<pre> 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; }} </pre>

OUTPUT





RESULT: The above program is successfully executed and obtained the output.