COURSE OUTCOME 4

PROGRAM : 1

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

PROGRAM CODE :

| MainActivity.java | ```
package com.example.co4_q1;

import androidx.appcompat.app.AlertDialog;
import androidx.appcompat.app.AppCompatActivity;

import android.app.Dialog;
import android.content.Context;
import android.content.DialogInterface;
import android.content.Intent;
import android.os.Bundle;
import android.view.View;
import android.widget.AdapterView;
import android.widget.ArrayAdapter;
import android.widget.GridView;
import android.widget.ListAdapter;
import android.widget.SimpleAdapter;
import android.widget.Toast;

public class MainActivity extends AppCompatActivity {
    GridView gd;
    int logos[] = {R.drawable.cl1, R.drawable.cl2, R.drawable.cl3,
R.drawable.cl4};
    String[] names
={"BMW","addidas","Be","S","Smile","Github",};
    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));
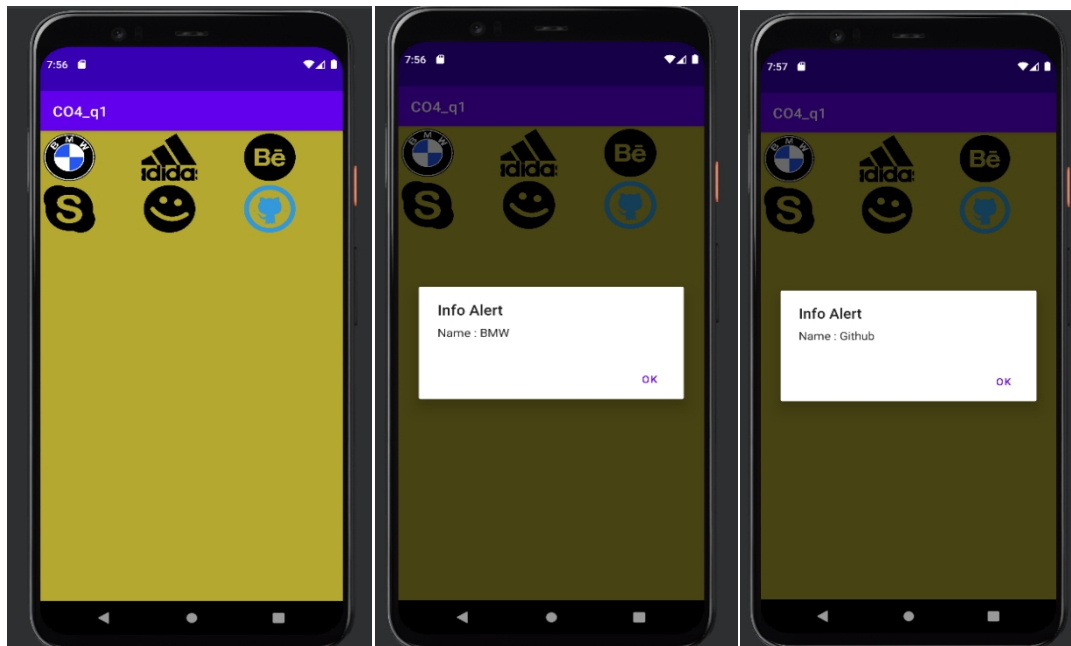        builder = new AlertDialog.Builder(this);

        gv.setOnItemClickListener(new
AdapterView.OnItemClickListener() {
            public void onItemClick(AdapterView<?> parent, View v,
``` |

| | ```
int position, long id) {
            builder.setMessage("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("Info Alert");
        alert.show();
        }
    });

    }
}
``` |
| 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="#B5A830"
    tools:context=".MainActivity">

    <GridView
        android:id="@+id/gridView"
        android:layout_width="fill_parent"
        android:layout_height="wrap_content"
        android:footerDividersEnabled="false"
        android:numColumns="3"
        android:padding="1dp" />
</LinearLayout>
``` |
| ImageAdapter.java | ```
package com.example.co4_q1;
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;
``` |

```java
        }
    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.cl1,
            R.drawable.cl2,
            R.drawable.cl3,
            R.drawable.cl4,
            R.drawable.cl5,
            R.drawable.cl6
    };
}
```

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

OUTPUT :

PROGRAM : 2

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

PROGRAM CODE :
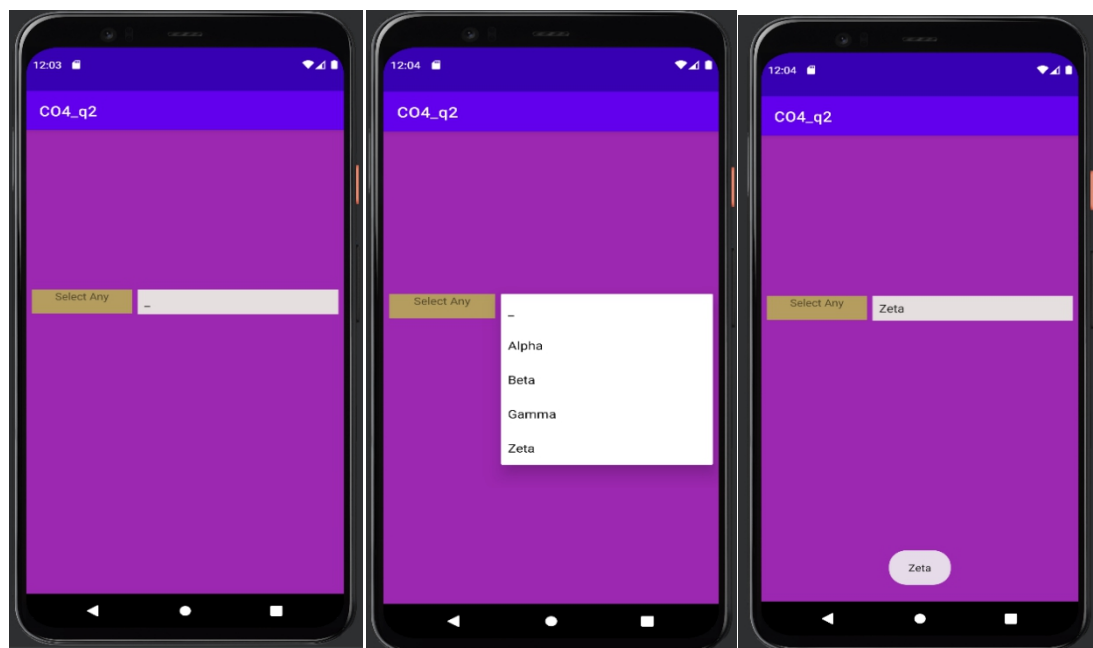

MainActivity.java	//Write a program that demonstrates Activity Lifecycle.
	package com.example.co1_q2;
	
	import androidx.appcompat.app.AppCompatActivity;
	
	import android.os.Bundle;
	import android.util.Log;
	
	public class MainActivity extends AppCompatActivity {
	
	  @Override
	  protected void onCreate(Bundle savedInstanceState) {
	    super.onCreate(savedInstanceState);
	    setContentView(R.layout.activity_main);
	    Log.i("State","onCreate");
	  }
	
	  @Override
	  protected void onStart() {
	    super.onStart();
	    Log.i("State","onStart");
	  }
	
	  @Override
	  protected void onResume() {
	    super.onResume();
	    Log.i("State","onResume");
	  }
	
	  @Override
	  protected void onPause() {
	    super.onPause();
	    Log.i("State","onCreate");
	  }
	
	  @Override

| | ```
protected void onRestart() {
    super.onRestart();
    Log.i("State","onRestart");
}

@Override
protected void onStop() {
    super.onStop();
    Log.i("State","onStop");
}

@Override
protected void onDestroy() {
    super.onDestroy();
    Log.i("State","onDestroy");
}
}
``` |
| 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="#9C27B0"
    tools:context=".MainActivity">

    <Spinner
        android:id="@+id/spinner"
        android:layout_width="248dp"
        android:layout_height="35dp"
        android:background="#D7E268"
        android:backgroundTint="#E6DFDF"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.5"
        app:layout_constraintStart_toEndOf="@+id/textView"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.363" />

    <TextView
        android:id="@+id/textView"
        android:layout_width="124dp"
        android:layout_height="34dp"
        android:background="#B59D60"
        android:text="Select Any"
        android:textAlignment="center"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toStartOf="@+id/spinner"
``` |

app:layout_constraintHorizontal_bias="0.5"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent"
app:layout_constraintVertical_bias="0.362" />

</androidx.constraintlayout.widget.ConstraintLayout>>

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

OUTPUT :

PROGRAM : 3

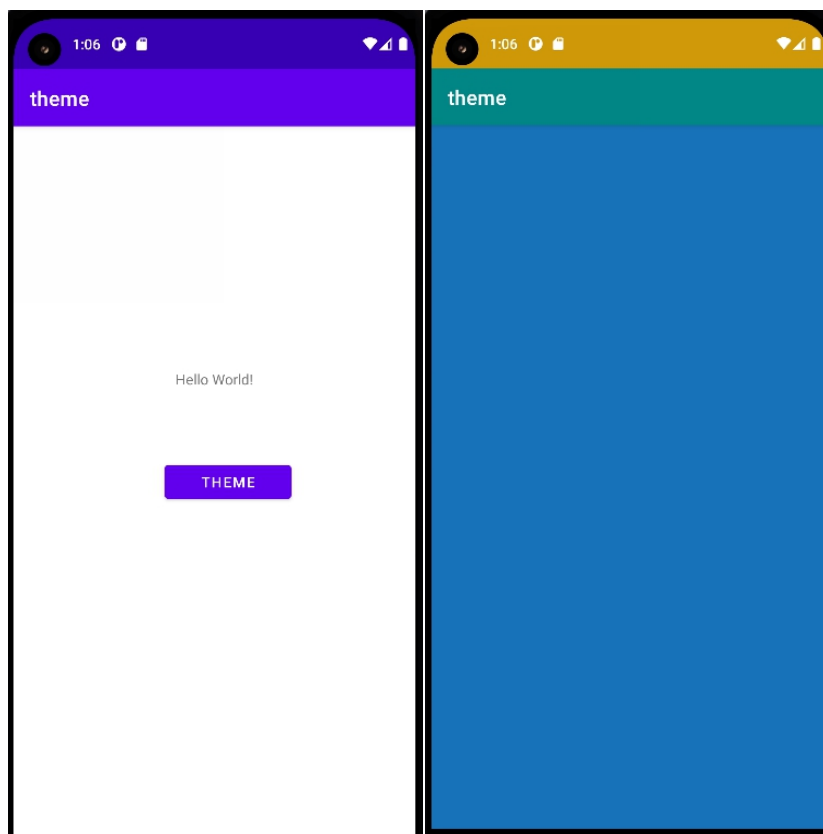**AIM :** Apply themes via code and manifest file

PROGRAM CODE :

| MainActivity.java | ```java
package com.example.co4_q3;

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 click(View view)
    {
        Intent i=new
Intent(getApplicationContext(),MainActivity2.class);
        startActivity(i);
    }
}
``` |
| activity_main.xml | ```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="124dp"
        android:layout_height="45dp"
        android:onClick="click"
        android:text="theme"
        app:layout_constraintBottom_toBottomOf="parent"
``` |

	app:layout_constraintEnd_toEndOf="parent" app:layout_constraintHorizontal_bias="0.55" app:layout_constraintStart_toStartOf="parent" app:layout_constraintTop_toTopOf="parent" /> </androidx.constraintlayout.widget.ConstraintLayout>

MainActivity2.java	```java
	package com.example.co4_q3;
	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);
	    }
	}
	``

activity_main2.xml	```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>
	``

themes.xml	```xml
	<resources xmlns:tools="http://schemas.android.com/tools">
	    <!-- Base application theme. -->
	    <style name="Theme.Theme"
	parent="Theme.MaterialComponents.DayNight.DarkActionBar">
	        <!-- Primary brand color. -->
	        <item name="colorPrimary">@color/purple_500</item>
	        <item
	name="colorPrimaryVariant">@color/purple_700</item>
	        <item name="colorOnPrimary">@color/white</item>
	        <!-- Secondary brand color. -->
	        <item name="colorSecondary">@color/teal_200</item>
	        <item
	name="colorSecondaryVariant">@color/teal_700</item>
	        <item name="colorOnSecondary">@color/black</item>
	        <!-- Status bar color. -->
	        <item name="android:statusBarColor"
	tools:targetApi="l">?attr/colorPrimaryVariant</item>
	        <!-- Customize your theme here. -->
	    </style>
	    <style name="Theme.Thememanifest1"
	parent="Theme.MaterialComponents.DayNight.DarkActionBar">
	        <!-- Primary brand color. -->
	        <item name="colorPrimary">@color/teal_700</item>
	        <item name="android:windowBackground">#1772B9</item>
	        <item name="colorPrimaryVariant">#D09909</item>
	        <item name="colorOnPrimary">@color/white</item>
	``

	<!-- Secondary brand color. --> <item name="colorSecondary">@color/teal_200</item> <item name="colorSecondaryVariant">@color/purple_200</item> <item name="colorOnSecondary">#D54444</item> <!-- Status bar color. --> <item name="android:statusBarColor" tools:targetApi="l">?attr/colorPrimaryVariant</item> <!-- Customize your theme here. --> </style> </resources>

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

OUTPUT :

PROGRAM : 4

AIM : Develop application using Fragments

PROGRAM CODE :

| MainActivity.java | ```java
//Develop application using Fragments package
com.example.co4_q4;
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 Fragment1());
    }
    public void fragement2Start(View view){
        replaceFragement(new Fragment2());
    }
    public void replaceFragement(Fragment pragment){
        FragmentManager fm = getSupportFragmentManager();
        FragmentTransaction ft = fm.beginTransaction();
        ft.replace(R.id.fra,pragment);
        ft.commit();
    }
}
``` |
| activity_main.xml | ```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
``` |
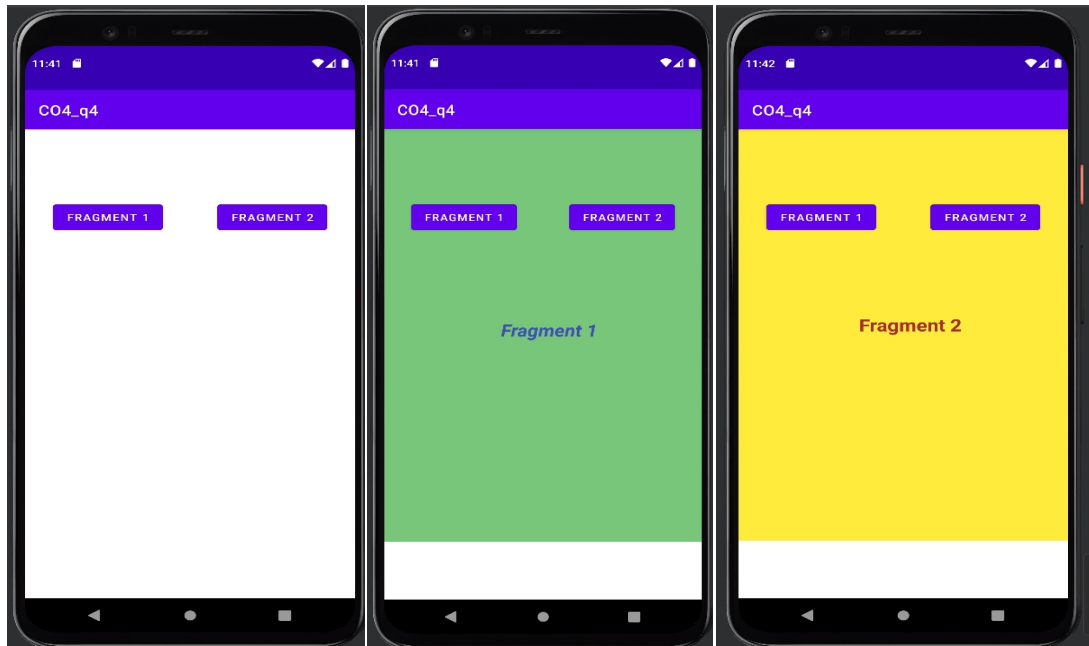
| | ```xml
android:id="@+id/f2"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_marginStart="32dp"
android:layout_marginTop="100dp"
android:onClick="fragement2Start"
android:text="Fragment 2"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="0.5"
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>
``` |
| Fragment1.java | ```java
package com.example.co4_q4;

import android.os.Bundle;

import androidx.fragment.app.Fragment;

import android.view.LayoutInflater;
import android.view.View;
import android.view.ViewGroup;

public class Fragment1 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.co4_q4;
	
	import android.os.Bundle;
	
	import androidx.fragment.app.Fragment;
	
	import android.view.LayoutInflater;
	import android.view.View;
	import android.view.ViewGroup;
	
	public class Fragment2 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);
	    }
	}

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="#77C67A"
	    tools:context=".Fragment1">
	
	    <TextView
	        android:id="@+id/textView2"
	        android:layout_width="154dp"
	        android:layout_height="46dp"
	        android:text="Fragment 1"
	        android:textAlignment="center"
	        android:textColor="#3F51B5"
	        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
	<?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="#FFEB3B"
	   tools:context=".Fragment2">
	
	   <!-- 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="#A52E2E"
	      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>
	``

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

OUTPUT :

PROGRAM : 5

AIM : Implement Navigation drawer

PROGRAM CODE :

| MainActivity.java | ```java
package com.example.co4_q5;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;

import androidx.annotation.NonNull;
import androidx.appcompat.app.ActionBarDrawerToggle;
import androidx.drawerlayout.widget.DrawerLayout;

import android.view.MenuItem;

public class MainActivity extends AppCompatActivity {

    public DrawerLayout drawerLayout;
    public ActionBarDrawerToggle actionBarDrawerToggle;

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

        drawerLayout = findViewById(R.id.my_drawer_layout);
        actionBarDrawerToggle = new
ActionBarDrawerToggle(this, drawerLayout, R.string.nav_open,
R.string.nav_close);


drawerLayout.addDrawerListener(actionBarDrawerToggle);
        actionBarDrawerToggle.syncState();


getSupportActionBar().setDisplayHomeAsUpEnabled(true);
    }


    @Override
    public boolean onOptionsItemSelected(@NonNull MenuItem
item) {
``` |

| | ```
        if (actionBarDrawerToggle.onOptionsItemSelected(item))
{
            return true;
        }
        return super.onOptionsItemSelected(item);
    }
}
``` |
| 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/my_drawer_layout"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity"
    tools:ignore="HardcodedText">

    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="match_parent">

        <TextView
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:layout_marginTop="128dp"
            android:gravity="center"
            android:text="Home"
            android:textSize="18sp" />

    </LinearLayout>

    <com.google.android.material.navigation.NavigationView
        android:layout_width="wrap_content"
        android:layout_height="match_parent"
        android:layout_gravity="start"
        app:menu="@menu/navigation_menu" />

</androidx.drawerlayout.widget.DrawerLayout>
``` |
| navigation_menu.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:ignore="HardcodedText">

    <item
        android:id="@+id/nav_account"
``` |

	android:title="Home" />
	     `<item`
	       `android:id="@+id/nav_settings"`
	       `android:title="Gallery" />`
	     `<item`
	       `android:id="@+id/nav_logout"`
	       `android:title="Info" />`
	 `</menu>`

strings.xml	`<resources>`
	   `<string name="app_name">Navigation Drawer</string>`
	
	   `<string name="nav_open">Open</string>`
	   `<string name="nav_close">Close</string>`
	 `</resources`

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

OUTPUT :