CO4

1.Develop an application that use GridView with images and display Alert on selection

Activity_main.xml

Main Activity.java

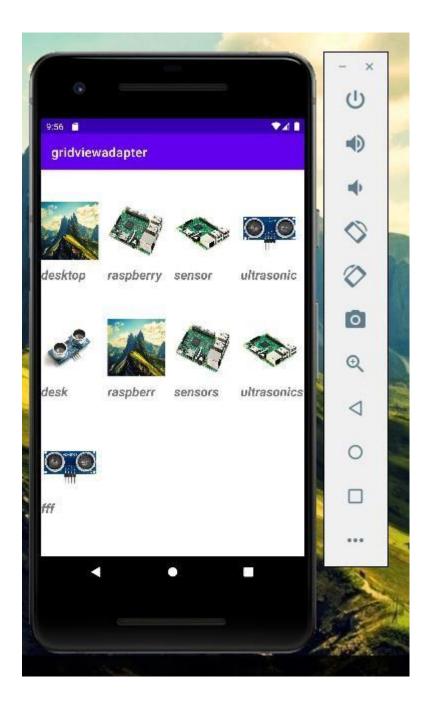
@Override

```
package com.example.gridviewadapter;
import androidx.appcompat.app.AlertDialog;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle; import
android.view.View; import
android.widget.AdapterView; import
android.widget.ArrayAdapter;
import android.widget.GridView;
public class MainActivity extends AppCompatActivity {
  GridView gv;
String[]
gridViewString={"desktop","raspberry","sensor","ultrasonic","desk","raspberr","sensors","ul
trasonics","fff"};
  public int
imgarray[]={R.drawable.a,R.drawable.b,R.drawable.c,R.drawable.d,R.drawable.e,R.drawabl
e.a,R.drawable.b,R.drawable.c,R.drawable.d};
```

```
protected void onCreate(Bundle savedInstanceState) {
super.onCreate(savedInstanceState);
setContentView(R.layout.activity_main);
    ImageAdapter imageAdapter=new
ImageAdapter(this,R.layout.iview,gridViewString,imgarray);
gv=findViewById(R.id.gridview);
                                      gv.setAdapter(imageAdapter);
    gv.setOnItemClickListener(new AdapterView.OnItemClickListener() {
       @Override
       public void onItemClick(AdapterView<?> parent, View view, int position, long id) {
AlertDialog.Builder bldr;
         bldr=new AlertDialog.Builder(MainActivity.this);
bldr.setTitle("Title");
         AlertDialog alrt=bldr.create();
alrt.setMessage(gridViewString[position]);
                                                   alrt.show();
       }
    });
ImageAdapter
package com.example.gridviewadapter;
import android.content.Context;
import android.view.LayoutInflater;
import android.view.View; import
android.view.ViewGroup; import
android.widget.ArrayAdapter; import
android.widget.ImageView;
import android.widget.TextView;
  public class ImageAdapter extends ArrayAdapter {
    private Context mContext;
private String gystring[];
                             private
int imgarray[];
                   LayoutInflater
inflator = null;
    public ImageAdapter(Context c, int resource, String s[], int x[]) {
super(c, resource);
                         mContext = c;
                                               gvstring = s;
imgarray = x;
       inflator = LayoutInflater.from(c);
    }
     @Override
public int getCount() {
       return imgarray.length;
```

```
}
     @Override
     public Object getItem(int position) {
       return null;
     }
     @Override
     public View getView(int position, View convertView, ViewGroup parent) {
if (convertView == null)
         convertView = inflator.inflate(R.layout.iview, null);
       TextView country = (TextView) convertView.findViewById(R.id.tv1);
ImageView icon = (ImageView) convertView.findViewById(R.id.imageVI);
icon.setImageResource(imgarray[position]);
country.setText(gvstring[position]);
                                         return convertView;
     }
  }
iview.xml
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"</p>
xmlns:app="http://schemas.android.com/apk/res-auto"
xmlns:tools="http://schemas.android.com/tools"
android:orientation="vertical"
                               android:layout_width="match_parent"
  android:layout height="match parent">
  <ImageView
    android:id="@+id/imageV1"
android:layout_width="90dp"
android:layout height="90dp"
                                  android:scaleType="fitXY"
android:layout_marginTop="50dp"
tools:srcCompat="@tools:sample/avatars"/>
  <TextView
                  android:id="@+id/tv1"
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:text="TextView"
android:textSize="20dp"
android:textStyle="italic|bold"
    android:layout_marginTop="10dp"/>
</LinearLayout>
```

OUTPUT



2. <u>Develop an application that implements Spinner component and perform event handling</u>

MAINACTIVITY

package com.example.spinneradapter;

```
import androidx.appcompat.app.AppCompatActivity;
import android.database.Cursor;
import android.database.sqlite.SQLiteDatabase;
import android.os.Bundle;
import android.view.View;
import android.widget.AdapterView;
import android.widget.ArrayAdapter;
import android.widget.CursorAdapter;
import android.widget.SimpleCursorAdapter;
import android.widget.Spinner;
import android.widget.Toast;
public class MainActivity extends AppCompatActivity {
  Spinner sp, sp1;
  SQLiteDatabase db;
  String s[]={"Red", "Green", "Blue", "Yellow"};
    @Override
   protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity main);
        sp = (Spinner) findViewById(R.id.spinner1);
        sp1 = (Spinner) findViewById(R.id.spinner2);
        ArrayAdapter<String> aa = new ArrayAdapter<String>(this,
R.layout.tv, s);
        sp.setAdapter(aa);
        sp.setOnItemSelectedListener(new
AdapterView.OnItemSelectedListener() {
            @Override
            public void onItemSelected(AdapterView<?> parent, View view,
int position, long id) {
                Toast.makeText(getApplicationContext(), s[position],
Toast.LENGTH SHORT).show();
            }
            @Override
            public void onNothingSelected(AdapterView<?> parent) {
                return;
        });
        try {
            db = openOrCreateDatabase("db1", MODE PRIVATE, null);
            db.execSQL("create table emp(eno integer, ename tyext, ecountry
text)");
            db.execSQL("insert into emp values(1,'Nisha','India')");
            db.execSQL("insert into emp values(2, 'Maya', 'US')");
            db.execSQL("insert into emp values(3, 'Manju', 'UK')");
            db.execSQL("insert into emp values(4,'Neenu','Canada')");
        } catch (Exception e) {
        }
        Cursor c = db.rawQuery("select eno as id,ename as name,ecountry
as country from emp", null);
        String s1[] = {"country"};
        int ids[] = {R.id.tv1};
        CursorAdapter ca = new SimpleCursorAdapter(this,
R.layout.cursorview, c, s1, ids);
        spl.setAdapter(ca);
```

```
sp1.setOnItemSelectedListener(new
AdapterView.OnItemSelectedListener() {
            @Override
            public void onItemSelected(AdapterView<?> parent, View view,
int position, long id) {
                Cursor item=(Cursor)parent.getSelectedItem();
                String value=(item.getString(2));
                Toast.makeText(getApplicationContext(), value, Toast.LENGTH
SHORT).show();
            @Override
            public void onNothingSelected(AdapterView<?> parent) {
        });
   }
                         ACTIVITY XML
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"</pre>
   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"
   android:orientation="horizontal">
   <Spinner
       android:id="@+id/spinner1"
       android:layout width="match parent"
       android:layout height="wrap content"
       android:layout weight="1" />
   <Spinner
       android:id="@+id/spinner2"
       android:layout width="match parent"
       android:layout height="wrap content"
       android:layout weight="1" />
</LinearLayout>
                    CURSORVIEWW XML
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"</pre>
   android:orientation="vertical"
   android:layout width="match parent"
   android:layout height="match parent">
   <TextView
       android:id="@+id/tv1"
```

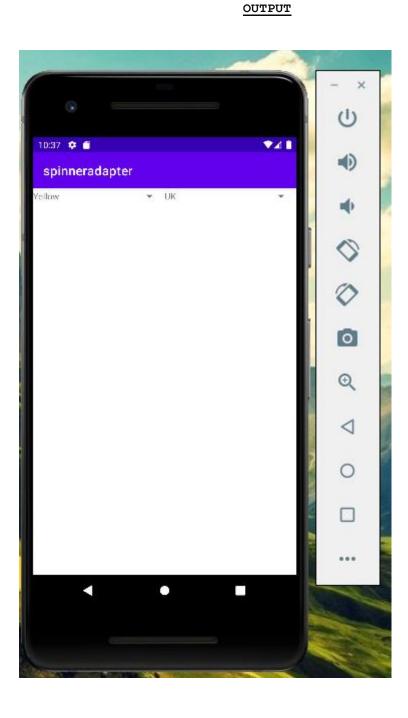
android:layout_width="match_parent"

```
android:layout_height="wrap_content"
android:text="TextView" />
</LinearLayout>
```

TV.XML

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

</TextView>



3.Apply themes via code and manifest file

Activity.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"
 android:theme="@style/mystyle">
 <TextView
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:text="Hello World!"
app:layout constraintBottom toBottomOf="parent"
app:layout_constraintLeft_toLeftOf="parent"
app:layout_constraintRight_toRightOf="parent"
app:layout_constraintTop_toTopOf="parent"
style="@style/mystyle"/>
</androidx.constraintlayout.widget.ConstraintLayout>
```

Androidmanifest.xml

```
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"</pre>
package="com.example.stylesandthemes">
 <application
   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.AppCompat.Light.NoActionBar">
      android:name=".MainActivity"
android:exported="true">
      <intent-filter>
        <action android:name="android.intent.action.MAIN" />
<category android:name="android.intent.category.LAUNCHER" />
      </intent-filter>
   </activity>
```

```
</application>
```

night/themes

```
<resources xmlns:tools="http://schemas.android.com/tools">
 <!-- Base application theme. -->
<style name="Theme.Stylesandthemes"
parent="Theme.MaterialComponents.DayNight.DarkActionBar">
    <!-- Primary brand color. -->
   <item name="colorPrimary">@color/purple_200</item>
   <item name="colorPrimaryVariant">@color/purple 700</item>
   <item name="colorOnPrimary">@color/black</item>
    <!-- Secondary brand color. -->
   <item name="colorSecondary">@color/teal_200</item>
   <item name="colorSecondaryVariant">@color/teal_200</item>
   <item name="colorOnSecondary">@color/black</item>
    <!-- Status bar color. -->
   <item name="android:statusBarColor"
tools:targetApi="1">?attr/colorPrimaryVariant</item>
    <!-- Customize your theme here. -->
 </style>
</resources>
```

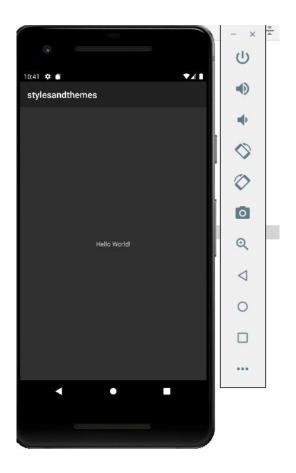
value/themes

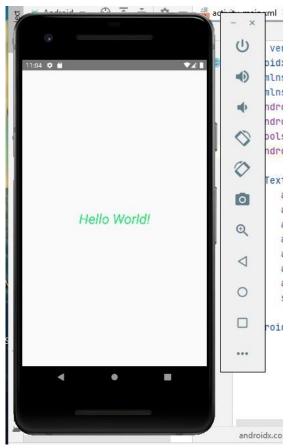
```
<resources xmlns:tools="http://schemas.android.com/tools">
 <!-- Base application theme. -->
<style name="Theme.Stylesandthemes"
parent="Theme.MaterialComponents.DayNight.DarkActionBar">
    <!-- Primary brand color. -->
   <item name="colorPrimary">@color/purple_500</item>
   <item name="colorPrimaryVariant">@color/purple_700</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="1">?attr/colorPrimaryVariant</item>
    <!-- Customize your theme here. -->
 <style name="mystyle" parent="Theme.AppCompat.DayNight.DarkActionBar">
   <item name="android:textColor">#1BEF70</item>
```

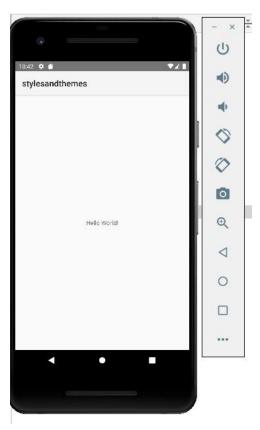
Mainactivity

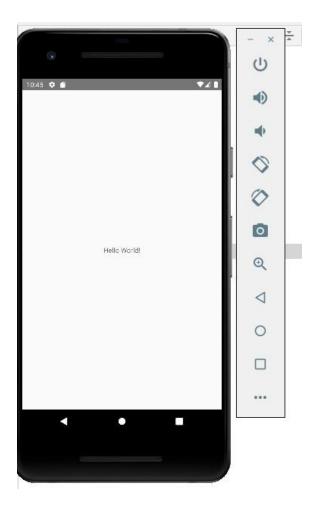
```
package com.example.stylesandthemes;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
public class MainActivity extends AppCompatActivity {
    @Override
    protected void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);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

Output









4. <u>Develop application using Fragments</u>

Activity_main.xml

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"</p>
xmlns:app="http://schemas.android.com/apk/res-auto"
xmlns:tools="http://schemas.android.com/tools"
android:layout_width="match_parent"
android:layout_height="match_parent" android:orientation="vertical"
 tools:context=".MainActivity">
 <TextView
   android:layout_width="wrap_content"
android:layout_height="wrap_content"
                                         android:text="Hello
World!"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintLeft_toLeftOf="parent"
app:layout_constraintRight_toRightOf="parent"
   app:layout_constraintTop_toTopOf="parent" />
```

```
<Button
android:id="@+id/firstFragment"
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:background="@color/black"
android:textSize="20sp"
android:textColor="#CDDC39"
   android:text="firstfragment" />
 <Button
   android:id="@+id/secondFragment"
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:layout_marginTop="10dp"
android:background="@color/black"
android:textSize="20sp"
                          android:textColor="#CDDC39"
   android:text="secondfragment" />
 < Frame Layout
android:id="@+id/FrameLayout"
android:layout_width="match_parent"
android:layout_height="match_parent"
   android:layout_marginTop="10dp">
 </FrameLayout>
</LinearLayout>
```

Main Activity.java

package com.example.fragmentexample;

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.Button;

public class MainActivity extends AppCompatActivity {
 Button firstFragment,secondFragment;

```
@Override
 protected void onCreate(Bundle savedInstanceState) {
super.onCreate(savedInstanceState);
setContentView(R.layout.activity_main);
    firstFragment=(Button) findViewById(R.id.firstFragment);
secondFragment=(Button) findViewById(R.id.secondFragment);
firstFragment.setOnClickListener(new View.OnClickListener() {
      @Override
                       public void
onClick(View v) {
        loadFragment(new FirstFragment());
      }
    });
    secondFragment.setOnClickListener(new View.OnClickListener() {
      @Override
      public void onClick(View v) {
loadFragment(new SecondFragment());
      }
    });
  }
 private void loadFragment(Fragment fragment)
    FragmentManager fm=getSupportFragmentManager();
    FragmentTransaction fragmentTransaction=fm.beginTransaction();
fragmentTransaction.replace(R.id.FrameLayout,fragment);
fragmentTransaction.commit();
 }
}
firstFragment.xml
<?xml version="1.0" encoding="utf-8"?>
<FrameLayout xmlns:android="http://schemas.android.com/apk/res/android"</p>
 xmlns:tools="http://schemas.android.com/tools"
android:layout_width="match_parent"
android:layout_height="match_parent"
 tools:context=".FirstFragment">
 <!-- TODO: Update blank fragment layout -->
 <TextView
android:layout width="match parent"
android:layout_height="match_parent"
    android:text="This is first fragment" />
 <Button
android:id="@+id/firstButton"
android:layout marginTop="40dp"
android:layout_width="wrap_content"
```

android:layout_height="wrap_content"

```
android:text="FirstFragment" />
```

```
</FrameLayout>
```

firstFragment.java

```
package com.example.fragmentexample;
import android.os.Bundle;
import androidx.fragment.app.Fragment;
import android.view.LayoutInflater; import
android.view.View;
import android.view.ViewGroup;
/**
* A simple {@link Fragment} subclass.
* Use the {@link FirstFragment#newInstance} factory method to *
  create an instance of this fragment.
public class FirstFragment extends Fragment {
 // TODO: Rename parameter arguments, choose names that match
// the fragment initialization parameters, e.g. ARG_ITEM_NUMBER
private static final String ARG_PARAM1 = "param1"; private static
final String ARG_PARAM2 = "param2";
 // TODO: Rename and change types of parameters
 private String mParam1;
private String mParam2;
 public FirstFragment() {
    // Required empty public constructor
  }
 /**
* Use this factory method to create a new instance of * this
 fragment using the provided parameters.
* @param param1 Parameter 1.
* @param param2 Parameter 2.
* @return A new instance of fragment FirstFragment.
  */
 // TODO: Rename and change types and number of parameters public
static FirstFragment newInstance(String param1, String param2) {
```

```
FirstFragment fragment = new FirstFragment();
Bundle args = new Bundle();
args.putString(ARG_PARAM1, param1);
args.putString(ARG_PARAM2, param2);
fragment.setArguments(args);
    return fragment;
  }
  @Override
 public void onCreate(Bundle savedInstanceState) {
super.onCreate(savedInstanceState);
    if (getArguments() != null) {
      mParam1 = getArguments().getString(ARG_PARAM1);
mParam2 = getArguments().getString(ARG PARAM2);
  }
  @Override
 public View on Create View (Layout Inflater inflater, View Group container,
                Bundle savedInstanceState) {
// Inflate the layout for this fragment
    return inflater.inflate(R.layout.fragment_first, container, false);
}
}
secondFragment.xml
<?xml version="1.0" encoding="utf-8"?>
<FrameLayout xmlns:android="http://schemas.android.com/apk/res/android"</p>
 xmlns:tools="http://schemas.android.com/tools"
android:layout width="match parent"
android:layout_height="match_parent"
 tools:context=".SecondFragment">
 <!-- TODO: Update blank fragment layout -->
 <TextView
android:layout_width="match_parent"
android:layout_height="match_parent"
    android:text="This is secondfragment" />
 <Button
android:id="@+id/secondbutton"
android:layout_marginTop="40dp"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
    android:text="secondFragment" />
```

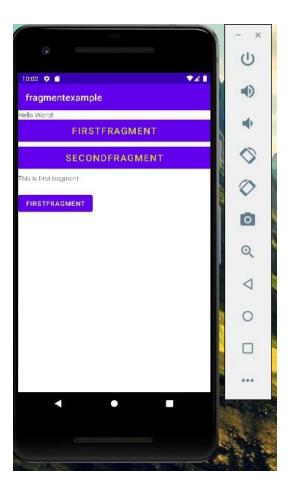
secondFragment.java

```
package com.example.fragmentexample;
import android.os.Bundle;
import androidx.fragment.app.Fragment;
import android.view.LayoutInflater; import
android.view.View;
import android.view.ViewGroup;
* A simple {@link Fragment} subclass.
* Use the {@link SecondFragment#newInstance} factory method to *
 create an instance of this fragment.
public class SecondFragment extends Fragment {
 // TODO: Rename parameter arguments, choose names that match
 // the fragment initialization parameters, e.g. ARG_ITEM_NUMBER
private static final String ARG_PARAM1 = "param1"; private static
final String ARG_PARAM2 = "param2";
 // TODO: Rename and change types of parameters
 private String mParam1;
private String mParam2;
 public SecondFragment() {
   // Required empty public constructor
  }
 /**
* Use this factory method to create a new instance of * this
 fragment using the provided parameters.
* @param param1 Parameter 1.
* @param param2 Parameter 2.
* @return A new instance of fragment SecondFragment.
  */
 // TODO: Rename and change types and number of parameters public
static SecondFragment newInstance(String param1, String param2) {
    SecondFragment fragment = new SecondFragment();
    Bundle args = new Bundle();
args.putString(ARG_PARAM1, param1);
```

```
args.putString(ARG_PARAM2, param2);
fragment.setArguments(args);
    return fragment;
  @Override
  public void onCreate(Bundle savedInstanceState) {
super.onCreate(savedInstanceState);
    if (getArguments() != null) {
      mParam1 = getArguments().getString(ARG_PARAM1);
mParam2 = getArguments().getString(ARG_PARAM2);
  }
  @Override
  public View on Create View (Layout Inflater inflater, View Group container,
                 Bundle savedInstanceState) {
// Inflate the layout for this fragment
    return inflater.inflate(R.layout.fragment_second, container, false);
  }
}
```

OUTPUT







5. Implement Navigation drawer

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">
  <LinearLayout
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:orientation="vertical"
android:gravity="center">
    <TextView
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:textSize="50dp"
android:text="Navigation!!!"
android:textColor="#B71DD1"
app:layout constraintBottom toBottomOf="parent"
app:layout_constraintLeft_toLeftOf="parent"
app:layout constraintRight toRightOf="parent"
app:layout_constraintTop_toTopOf="parent" />
  </LinearLayout>
  <com.google.android.material.navigation.NavigationView</p>
android:layout_width="wrap_content"
android:layout_height="match_parent"
                                         android:id="@+id/nav_view"
    android:layout_gravity="start"
app:menu="@menu/navigationmenu"/>
</androidx.drawerlayout.widget.DrawerLayout >
```

Mainactivity.java

```
androidx.annotation.NonNull; import
androidx.appcompat.app.ActionBarDrawerToggle; import
androidx.appcompat.app.AppCompatActivity; import
androidx.drawerlayout.widget.DrawerLayout; import
android.os.Bundle; import android.view.MenuItem;
import android.widget.Toast;

import com.example.navigationdrawer.R; import
com.google.android.material.navigation.NavigationView; public
class MainActivity extends AppCompatActivity {
    DrawerLayout dl;
    ActionBarDrawerToggle abdg;
    @Override
```

package com.example.navigationdrawer; import

```
protected void onCreate(Bundle savedInstanceState) {
super.onCreate(savedInstanceState);
setContentView(R.layout.activity_main);
    dl=(DrawerLayout)findViewById(R.id.my_drawer_layout);
    abdg = new ActionBarDrawerToggle(this,dl, R.string.nav_open,R.string.nav_close);
dl.addDrawerListener(abdg);
    abdg.syncState();
    getSupportActionBar().setDisplayHomeAsUpEnabled(true);
    NavigationView navView = (NavigationView) findViewById(R.id.nav view);
navView.setNavigationItemSelectedListener(new
NavigationView.OnNavigationItemSelectedListener() {
       @Override
       public boolean onNavigationItemSelected(@NonNull MenuItem menuitem)
         int itemId = menuitem.getItemId();
if (itemId == R.id.nav_account) {
           Toast.makeText(getApplicationContext(),
                menuitem.getTitle(), Toast.LENGTH_SHORT).show();
         } else if (itemId == R.id.nav_settings) {
Toast.makeText(getApplicationContext(),
                menuitem.getTitle(), Toast.LENGTH_SHORT).show();
         } else if (itemId == R.id.nav_logout) {
Toast.makeText(getApplicationContext(),
                menuitem.getTitle(), Toast.LENGTH_SHORT).show();
         } return false:
       }
    });
  public boolean onOptionsItemSelected(@NonNull MenuItem item)
    if (abdg.onOptionsItemSelected(item))
return true;
    return super.onOptionsItemSelected(item);
  }
}
Navigationmenu.xml
<?xml version="1.0" encoding="utf-8"?>
<menu xmlns:android="http://schemas.android.com/apk/res/android">
  <item android:id="@+id/nav account"
android:title="My Account" />
android:id="@+id/nav_settings"
android:title="Settings" />
```

<item android:id="@+id/nav logout"

android:title="Logout" />

</menu>

Strings.xml

```
<resources>
    <string name="app_name">navigation</string>
    <string name="nav_open">Open</string>
    <string name="nav_close">Close</string>
</resources>
```

OUTPUT

