UI Layouts(linear,relative,list,grid)

Activity\_main.xml

*<?***xml version="1.0" encoding="utf-8"***?>*<**LinearLayout  
 xmlns:android="http://schemas.android.com/apk/res/android"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 android:orientation="vertical"  
 android:padding="16dp"  
 android:background="@android:color/white"**>  
  
 *<!-- Linear Layout Section with Border -->* <**LinearLayout  
 android:id="@+id/linear\_layout"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:orientation="vertical"  
 android:padding="16dp"  
 android:layout\_marginBottom="20dp"  
 android:background="?android:attr/selectableItemBackgroundBorderless"**>  
  
 <**TextView  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="This is a Linear Layout"  
 android:textSize="18sp"** />  
 </**LinearLayout**>  
  
 *<!-- Relative Layout Section with Border -->* <**RelativeLayout  
 android:id="@+id/relative\_layout"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:padding="16dp"  
 android:layout\_marginBottom="20dp"  
 android:background="?android:attr/selectableItemBackgroundBorderless"**>  
  
 <**TextView  
 android:id="@+id/textViewRelative"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="This is a Relative Layout"  
 android:textSize="18sp"  
 android:layout\_centerInParent="true"** />  
 </**RelativeLayout**>  
  
 *<!-- ListView Section with Border -->* <**TextView  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="ListView Example"  
 android:textSize="18sp"  
 android:layout\_marginTop="20dp"** />  
  
 <**ListView  
 android:id="@+id/list\_view"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:background="?android:attr/selectableItemBackgroundBorderless"** />  
  
 *<!-- GridView Section with Border -->* <**TextView  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="GridView Example"  
 android:textSize="18sp"  
 android:layout\_marginTop="20dp"** />  
  
 <**GridView  
 android:id="@+id/grid\_view"  
 android:layout\_width="match\_parent"  
 android:layout\_height="136dp"  
 android:background="?android:attr/selectableItemBackgroundBorderless"  
 android:columnWidth="100dp"  
 android:horizontalSpacing="10dp"  
 android:numColumns="2"  
 android:stretchMode="columnWidth"  
 android:verticalSpacing="10dp"** />  
</**LinearLayout**>

mainActivity.java

**package** com.example.ui\_layouts;  
  
**import** android.os.Bundle;  
**import** android.widget.ArrayAdapter;  
**import** android.widget.GridView;  
**import** android.widget.ListView;  
**import** android.widget.LinearLayout;  
**import** android.widget.RelativeLayout;  
**import** android.widget.TextView;  
**import** androidx.appcompat.app.AppCompatActivity;  
  
**public class** MainActivity **extends** AppCompatActivity {  
  
 @Override  
 **protected void** onCreate(Bundle savedInstanceState) {  
 **super**.onCreate(savedInstanceState);  
 setContentView(R.layout.***activity\_main***);  
  
 *// Linear Layout Example: Adding TextView dynamically* LinearLayout linearLayout = findViewById(R.id.***linear\_layout***);  
 TextView textViewLinear = **new** TextView(**this**);  
 linearLayout.addView(textViewLinear);  
  
 *// Relative Layout Example: Adding TextView dynamically* RelativeLayout relativeLayout = findViewById(R.id.***relative\_layout***);  
 TextView textViewRelative = **new** TextView(**this**);  
 relativeLayout.addView(textViewRelative);  
  
 *// ListView Example: Displaying exactly 4 items* ListView listView = findViewById(R.id.***list\_view***);  
 String[] listItems = {**"Item 1"**, **"Item 2"**, **"Item 3"**, **"Item 4"**}; *// Exactly 4 items* ArrayAdapter<String> listAdapter = **new** ArrayAdapter<>(**this**, android.R.layout.***simple\_list\_item\_1***, listItems);  
 listView.setAdapter(listAdapter);  
  
 *// GridView Example: Displaying a grid of items* GridView gridView = findViewById(R.id.***grid\_view***);  
 String[] gridItems = {**"Grid 1"**, **"Grid 2"**, **"Grid 3"**, **"Grid 4"**};  
 ArrayAdapter<String> gridAdapter = **new** ArrayAdapter<>(**this**, android.R.layout.***simple\_list\_item\_1***, gridItems);  
 gridView.setAdapter(gridAdapter);  
 }  
}

dependencies

dependencies **{** implementation **'androidx.appcompat:appcompat:1.4.1'** implementation **'com.google.android.material:material:1.5.0'** implementation **'androidx.constraintlayout:constraintlayout:2.1.3'** testImplementation **'junit:junit:4.13.2'** androidTestImplementation **'androidx.test.ext:junit:1.1.3'** androidTestImplementation **'androidx.test.espresso:espresso-core:3.4.0'  
}**