**Pract4**

Programs related to different Layouts

Coordinate, Linear, Relative, Table, Absolute, Frame, List View, Grid View.

**LinearLayout**

**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:orientation="vertical"  
 android:gravity="center"  
 tools:context=".MainActivity"**>  
  
 <**Button  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:id="@+id/qwerty"  
 android:text="Click Me"**/>  
  
 <**Button  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:id="@+id/turf"  
 android:text="Kick Me"**/>  
  
 <**LinearLayout  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:orientation="horizontal"  
 android:gravity="center"**>  
  
 <**Button  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:id="@+id/qwerty1"  
 android:text="Click Me 2"  
 android:layout\_marginRight="20dp"**/>  
 <**Button  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:id="@+id/turf1"  
 android:text="Kick Me 2"**/>  
 </**LinearLayout**>  
</**LinearLayout**>

**Kt**

**package** com.example.mylinearlayout  
  
**import** androidx.appcompat.app.AppCompatActivity  
**import** android.os.Bundle  
**import** android.widget.Button  
**import** android.widget.Toast  
  
**class** MainActivity : AppCompatActivity() {  
 **override fun** onCreate(savedInstanceState: Bundle?) {  
 **super**.onCreate(savedInstanceState)  
 setContentView(R.layout.*activity\_main*)  
 **val** button1 = findViewById<Button>(R.id.*qwerty*)  
 **val** button2 = findViewById<Button>(R.id.*turf*)  
 **val** button3 = findViewById<Button>(R.id.*qwerty1*)  
 **val** button4 = findViewById<Button>(R.id.*turf1*)  
  
 button1.setOnClickListener **{** Toast.makeText(**this**@MainActivity, **"You Clicked Me"** , Toast.*LENGTH\_SHORT*).show() **}** button2.setOnClickListener **{** Toast.makeText(**this**@MainActivity, **"You Kicked Me"** , Toast.*LENGTH\_SHORT*).show() **}** button3.setOnClickListener **{** Toast.makeText(**this**@MainActivity, **"You clicked me again"** ,  
 Toast.*LENGTH\_SHORT*).show() **}** button4.setOnClickListener **{** Toast.makeText(**this**@MainActivity, **"You kicked me again"** ,  
 Toast.*LENGTH\_SHORT*).show() **}** }  
}

**RelativeLayout**

**Xml**

*<?***xml version="1.0" encoding="utf-8"***?>*<**RelativeLayout 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:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:id="@+id/qwerty"  
 android:text="Click Me"  
 android:layout\_alignParentLeft="true"**/>  
  
 <**Button  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:id="@+id/turf"  
 android:text="Kick me"  
 android:layout\_alignParentRight="true"**/>  
 <**Button  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:id="@+id/qwerty1"  
 android:text="Click Me 1"  
 android:layout\_alignParentBottom="true"**/>  
  
 <**Button  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:id="@+id/turf1"  
 android:text="Click Me 2"  
 android:layout\_centerHorizontal="true"**/>  
  
  
</**RelativeLayout**>

**Kt**

**package** com.example.myrelativelayout  
  
**import** androidx.appcompat.app.AppCompatActivity  
**import** android.os.Bundle  
**import** android.widget.Button  
**import** android.widget.Toast  
  
**class** MainActivity : AppCompatActivity() {  
 **override fun** onCreate(savedInstanceState: Bundle?) {  
 **super**.onCreate(savedInstanceState)  
 setContentView(R.layout.*activity\_main*)  
 **val** button1 = findViewById<Button>(R.id.*qwerty*)  
 **val** button2 = findViewById<Button>(R.id.*turf*)  
 **val** button3 = findViewById<Button>(R.id.*qwerty1*)  
 **val** button4 = findViewById<Button>(R.id.*turf1*)  
 button1.setOnClickListener **{** Toast.makeText(**this**@MainActivity, **"You clicked me"**, Toast.*LENGTH\_SHORT*).show() **}** button2.setOnClickListener **{** Toast.makeText(**this**@MainActivity, **"You kicked me"**, Toast.*LENGTH\_SHORT*).show() **}** button3.setOnClickListener **{** Toast.makeText(**this**@MainActivity, **"You clicked me again"**, Toast.*LENGTH\_SHORT*).show() **}** button4.setOnClickListener **{** Toast.makeText(**this**@MainActivity, **"You kicked me again"**, Toast.*LENGTH\_SHORT*).show() **}** }  
}

**Calculator using Table Layout**

**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="wrap\_content"  
 android:background="@color/black"  
 android:orientation="vertical"  
 tools:context=".MainActivity"**>  
  
 <**EditText  
 android:id="@+id/editText"  
 android:layout\_width="match\_parent"  
 android:layout\_height="600dp"  
 android:layout\_marginRight="20dp"  
 android:layout\_marginTop="10dp"  
 android:layout\_marginLeft="20dp"  
 android:layout\_marginBottom="2dp"  
 android:layout\_weight="1"  
 android:textColor="@color/white"  
 android:ems="10"  
 android:layout\_gravity="right|center"  
 android:inputType="textPersonName"  
 android:text="0"  
 android:textSize="100dp"**/>  
 <**TableLayout  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 android:layout\_marginRight="20dp"  
 android:layout\_marginLeft="20dp"  
 android:layout\_marginBottom="10dp"**>  
 <**TableRow  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"**>  
 <**Button  
 android:id="@+id/b1"  
 android:layout\_width="30pt"  
 android:layout\_height="30pt"  
 android:layout\_marginRight="10dp"  
 android:layout\_weight="1"  
 android:onClick="cEvent"  
 android:text="C"  
 android:textColor="@color/teal\_200"  
 android:textSize="40dp"**></**Button**>  
 <**Button  
 android:id="@+id/b2"  
 android:layout\_width="30pt"  
 android:layout\_height="30pt"  
 android:layout\_marginRight="10dp"  
 android:layout\_weight="1"  
 android:onClick="numberEvent"  
 android:text="0"  
 android:textColor="@color/teal\_200"  
 android:textSize="40dp"**></**Button**>  
 <**Button  
 android:id="@+id/b3"  
 android:layout\_width="30pt"  
 android:layout\_height="30pt"  
 android:layout\_marginRight="10dp"  
 android:layout\_weight="1"  
 android:onClick="operatorEvent"  
 android:text="\*"  
 android:textColor="@color/teal\_200"  
 android:textSize="40dp"**></**Button**>  
 <**Button  
 android:id="@+id/b4"  
 android:layout\_width="30pt"  
 android:layout\_height="30pt"  
 android:layout\_marginRight="8dp"  
 android:layout\_weight="1"  
 android:onClick="operatorEvent"  
 android:text="-"  
 android:textColor="@color/teal\_200"  
 android:textSize="40dp"**></**Button**>  
 </**TableRow**>  
 <**TableRow  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"**>  
 <**Button  
 android:id="@+id/b5"  
 android:layout\_width="30pt"  
 android:layout\_height="30pt"  
 android:layout\_marginRight="10dp"  
 android:layout\_weight="1"  
 android:onClick="numberEvent"  
 android:text="7"  
 android:textColor="@color/teal\_200"  
 android:textSize="40dp"**></**Button**>  
 <**Button  
 android:id="@+id/b6"  
 android:layout\_width="30pt"  
 android:layout\_height="30pt"  
 android:layout\_marginRight="10dp"  
 android:layout\_weight="1"  
 android:onClick="numberEvent"  
 android:text="8"  
 android:textColor="@color/teal\_200"  
 android:textSize="40dp"**></**Button**>  
 <**Button  
 android:id="@+id/b7"  
 android:layout\_width="30pt"  
 android:layout\_height="30pt"  
 android:layout\_marginRight="10dp"  
 android:layout\_weight="1"  
 android:onClick="numberEvent"  
 android:text="9"  
 android:textColor="@color/teal\_200"  
 android:textSize="40dp"**></**Button**>  
 <**Button  
 android:id="@+id/b8"  
 android:layout\_width="30pt"  
 android:layout\_height="30pt"  
 android:layout\_marginRight="8dp"  
 android:layout\_weight="1"  
 android:onClick="numberEvent"  
 android:text="+"  
 android:textColor="@color/teal\_200"  
 android:textSize="40dp"**></**Button**>  
 </**TableRow**>  
 <**TableRow  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"**>  
 <**Button  
 android:id="@+id/b9"  
 android:layout\_width="30pt"  
 android:layout\_height="30pt"  
 android:layout\_marginRight="10dp"  
 android:layout\_weight="1"  
 android:onClick="numberEvent"  
 android:text="4"  
 android:textColor="@color/teal\_200"  
 android:textSize="40dp"**></**Button**>  
 <**Button  
 android:id="@+id/b10"  
 android:layout\_width="30pt"  
 android:layout\_height="30pt"  
 android:layout\_marginRight="10dp"  
 android:layout\_weight="1"  
 android:onClick="numberEvent"  
 android:text="5"  
 android:textColor="@color/teal\_200"  
 android:textSize="40dp"**></**Button**>  
 <**Button  
 android:id="@+id/b11"  
 android:layout\_width="30pt"  
 android:layout\_height="30pt"  
 android:layout\_marginRight="10dp"  
 android:layout\_weight="1"  
 android:onClick="numberEvent"  
 android:text="6"  
 android:textColor="@color/teal\_200"  
 android:textSize="40dp"**></**Button**>  
 <**Button  
 android:id="@+id/b12"  
 android:layout\_width="30pt"  
 android:layout\_height="30pt"  
 android:layout\_marginRight="8dp"  
 android:layout\_weight="1"  
 android:onClick="operatorEvent"  
 android:text="/"  
 android:textColor="@color/teal\_200"  
 android:textSize="40dp"**></**Button**>  
 </**TableRow**>  
 <**TableRow  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"**>  
 <**Button  
 android:id="@+id/b13"  
 android:layout\_width="30pt"  
 android:layout\_height="30pt"  
 android:layout\_marginRight="10dp"  
 android:layout\_weight="1"  
 android:onClick="numberEvent"  
 android:text="1"  
 android:textColor="@color/teal\_200"  
 android:textSize="40dp"**></**Button**>  
 <**Button  
 android:id="@+id/b14"  
 android:layout\_width="30pt"  
 android:layout\_height="30pt"  
 android:layout\_marginRight="10dp"  
 android:layout\_weight="1"  
 android:onClick="numberEvent"  
 android:text="2"  
 android:textColor="@color/teal\_200"  
 android:textSize="40dp"**></**Button**>  
 <**Button  
 android:id="@+id/b15"  
 android:layout\_width="30pt"  
 android:layout\_height="30pt"  
 android:layout\_marginRight="10dp"  
 android:layout\_weight="1"  
 android:onClick="numberEvent"  
 android:text="3"  
 android:textColor="@color/teal\_200"  
 android:textSize="40dp"**></**Button**>  
 <**Button  
 android:id="@+id/b16"  
 android:layout\_width="30pt"  
 android:layout\_height="30pt"  
 android:layout\_marginRight="8dp"  
 android:layout\_weight="1"  
 android:onClick="equalEvent"  
 android:text="="  
 android:textColor="@color/teal\_200"  
 android:textSize="40dp"**></**Button**>  
 </**TableRow**>  
 </**TableLayout**>  
</**LinearLayout**>

**kt**

**package** com.example.mycalculator  
  
**import** androidx.appcompat.app.AppCompatActivity  
**import** android.os.Bundle  
**import** android.view.View  
**import** android.widget.Button  
**import** android.widget.EditText  
  
  
**class** MainActivity : AppCompatActivity() {  
 **var isNewOp** = **true  
 var oldNumber** = **""  
 var oper** = **"+"  
 override fun** onCreate(savedInstanceState: Bundle?) {  
 **super**.onCreate(savedInstanceState)  
 setContentView(R.layout.*activity\_main*)  
 }  
 **fun** numberEvent(view: View){  
 **var** editText = findViewById<EditText>(R.id.*editText*)  
 **if** (**isNewOp**)  
 editText.setText(**""**)  
 **isNewOp**=**false  
 var** bclick : String = editText.*text*.toString()  
 **var** bselect : Button = view **as** Button  
 **var** b2 = findViewById<Button>(R.id.*b2*)  
 **var** b5 = findViewById<Button>(R.id.*b5*)  
 **var** b6 = findViewById<Button>(R.id.*b6*)  
 **var** b7 = findViewById<Button>(R.id.*b7*)  
 **var** b9 = findViewById<Button>(R.id.*b9*)  
 **var** b10 = findViewById<Button>(R.id.*b10*)  
 **var** b11 = findViewById<Button>(R.id.*b11*)  
 **var** b13 = findViewById<Button>(R.id.*b13*)  
 **var** b14 = findViewById<Button>(R.id.*b14*)  
 **var** b15 = findViewById<Button>(R.id.*b15*)  
 **when**(bselect.*id*){  
 b2.*id*->bclick += **"0"** b5.*id*->bclick +=**"7"** b6.*id*->bclick +=**"8"** b7.*id*->bclick +=**"9"** b9.*id*->bclick +=**"4"** b10.*id*->bclick +=**"5"** b11.*id*->bclick +=**"6"** b13.*id*->bclick +=**"1"** b14.*id*->bclick +=**"2"** b15.*id*->bclick +=**"3"** }  
 editText.setText(bclick)  
  
 }  
 **fun** operatorEvent(view: View){  
 **var** b12 = findViewById<Button>(R.id.*b12*)  
 **var** b8 = findViewById<Button>(R.id.*b8*)  
 **var** b3 = findViewById<Button>(R.id.*b3*)  
 **var** b4 = findViewById<Button>(R.id.*b4*)  
 **isNewOp**=**true  
 var** editText = findViewById<EditText>(R.id.*editText*)  
 **oldNumber** = editText.*text*.toString()  
 **var** bselect = view **as** Button  
 **when** (bselect.*id*){  
 b12.*id*->**oper**=**"/"** b8.*id*->**oper**=**"+"** b3.*id*->**oper**=**"\*"** b4.*id*->**oper**=**"-"** }  
 }  
 **fun** equalEvent(view: View){  
 **var** editText = findViewById<EditText>(R.id.*editText*)  
 **var** newnum = editText.*text*.toString()  
 **var** result=0.0  
 **when**(**oper**){  
 **"+"**->result = **oldNumber**.*toDouble*()+ newnum.*toDouble*()  
 **"\*"**->result = **oldNumber**.*toDouble*()\* newnum.*toDouble*()  
 **"-"**->result = **oldNumber**.*toDouble*()- newnum.*toDouble*()  
 **"/"**->result = **oldNumber**.*toDouble*()/ newnum.*toDouble*()  
 }  
 editText.setText(result.toString())  
 }  
 **fun** cEvent(view: View){  
 **var** editText = findViewById<EditText>(R.id.*editText*)  
 editText.setText(**"0"**)  
 }  
}

**GridLayout**

**Xml**

*<?***xml version="1.0" encoding="utf-8"***?>*<**GridLayout 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:rowCount="3"  
 android:columnCount="2"  
 android:layout\_marginTop="20dp"  
 android:layout\_marginLeft="20dp"  
 tools:context=".MainActivity"**>  
  
 <**Button  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:id="@+id/qwerty"  
 android:text="CLICK ME"  
 android:layout\_marginRight="10dp"  
 android:layout\_marginBottom="20dp"**/>  
 <**Button  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:id="@+id/asdf"  
 android:text="KICK ME"  
 android:layout\_marginRight="10dp"**/>  
 <**Button  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:id="@+id/kiol"  
 android:text="SMILE"  
 android:layout\_marginRight="10dp"  
 android:layout\_marginBottom="20dp"**/>  
 <**Button  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:id="@+id/zxcv"  
 android:text="CLICK ME 2"  
 android:layout\_marginRight="10dp"  
 android:layout\_marginBottom="20dp"**/>  
 <**Button  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:id="@+id/mnop"  
 android:text="KICK ME 2"  
 android:layout\_marginRight="10dp"**/>  
 <**Button  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:id="@+id/buit"  
 android:text="SMILE 2"  
 android:layout\_marginRight="10dp"  
 android:layout\_marginBottom="20dp"**/>  
  
</**GridLayout**>

**Kt**

**package** com.example.mygridlayout  
  
**import** androidx.appcompat.app.AppCompatActivity  
**import** android.os.Bundle  
**import** android.widget.Button  
**import** android.widget.Toast  
  
**class** MainActivity : AppCompatActivity() {  
 **override fun** onCreate(savedInstanceState: Bundle?) {  
 **super**.onCreate(savedInstanceState)  
 setContentView(R.layout.*activity\_main*)  
 **val** btn=findViewById<Button>(R.id.*qwerty*)  
 **val** btn2=findViewById<Button>(R.id.*asdf*)  
 **val** btn3=findViewById<Button>(R.id.*zxcv*)  
 **val** btn4=findViewById<Button>(R.id.*mnop*)  
 **val** btn5=findViewById<Button>(R.id.*kiol*)  
 **val** btn6=findViewById<Button>(R.id.*buit*)  
  
 btn.setOnClickListener**{** Toast.makeText( **this**@MainActivity,**"you clicked me"**,Toast.*LENGTH\_SHORT*).show() **}** btn2.setOnClickListener**{** Toast.makeText( **this**@MainActivity,**"you kicked me"**,Toast.*LENGTH\_SHORT*).show() **}** btn3.setOnClickListener**{** Toast.makeText( **this**@MainActivity,**"you clicked me again"**,Toast.*LENGTH\_SHORT*).show() **}** btn4.setOnClickListener**{** Toast.makeText( **this**@MainActivity,**"you kicked me again"**,Toast.*LENGTH\_SHORT*).show() **}** btn5.setOnClickListener**{** Toast.makeText( **this**@MainActivity,**"you smiled me"**,Toast.*LENGTH\_SHORT*).show() **}** btn6.setOnClickListener**{** Toast.makeText( **this**@MainActivity,**"you smiled me again"**,Toast.*LENGTH\_SHORT*).show() **}** }  
}