**ANDROID LAB**

**Experiment No.: 5**

**Aim**

**Design a simple Calculator using GridLayout and Cascaded LinearLayout**

**Program**

Cascaded LinearLayout Calculator

------------------------------------------------------------------- XML Code -------------------------------------------------------------------

<?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:id="@+id/calculator\_mainlay"

android:padding="20dp"

tools:context=".CascadedCalculatorActivity">

<EditText

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:layout\_marginTop="30dp"

android:hint="Number 01"

android:inputType="number"/>

<EditText

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:layout\_marginTop="10dp"

android:hint="Number 02"

android:inputType="number"/>

<EditText

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:layout\_marginTop="10dp"

android:hint="Result"

android:clickable="false"

android:enabled="false"

android:inputType="number"/>

<LinearLayout

android:layout\_width="match\_parent"

android:layout\_height="match\_parent"

android:orientation="vertical"

android:layout\_marginTop="20dp"

android:gravity="bottom">

<LinearLayout

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:orientation="horizontal"

android:weightSum="4">

<Button

android:id="@+id/numclearall\_btn"

android:layout\_width="0dp"

android:layout\_height="60dp"

android:textColor="@color/white"

android:text="CE"

android:layout\_weight="1"/>

<Button

android:id="@+id/numclear\_btn"

android:layout\_width="0dp"

android:layout\_height="60dp"

android:textColor="@color/white"

android:text="C"

android:layout\_marginStart="10dp"

android:layout\_weight="1"/>

<Button

android:id="@+id/nummodulus\_btn"

android:layout\_width="0dp"

android:layout\_height="60dp"

android:textColor="@color/white"

android:text="%"

android:layout\_marginStart="10dp"

android:layout\_weight="1"/>

<Button

android:id="@+id/divide\_btn"

android:layout\_width="0dp"

android:layout\_height="60dp"

android:textColor="@color/white"

android:text="/"

android:layout\_marginStart="10dp"

android:layout\_weight="1"/>

</LinearLayout>

<LinearLayout

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:orientation="horizontal"

android:layout\_marginTop="10dp"

android:weightSum="4">

<Button

android:id="@+id/num7\_btn"

android:layout\_width="0dp"

android:layout\_height="60dp"

android:textColor="@color/white"

android:text="7"

android:layout\_weight="1"/>

<Button

android:id="@+id/num8\_btn"

android:layout\_width="0dp"

android:layout\_height="60dp"

android:textColor="@color/white"

android:text="8"

android:layout\_marginStart="10dp"

android:layout\_weight="1"/>

<Button

android:id="@+id/num9\_btn"

android:layout\_width="0dp"

android:layout\_height="60dp"

android:textColor="@color/white"

android:text="9"

android:layout\_marginStart="10dp"

android:layout\_weight="1"/>

<Button

android:id="@+id/multiply\_btn"

android:layout\_width="0dp"

android:layout\_height="60dp"

android:textColor="@color/white"

android:text="x"

android:layout\_marginStart="10dp"

android:layout\_weight="1"/>

</LinearLayout>

<LinearLayout

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:orientation="horizontal"

android:layout\_marginTop="10dp"

android:weightSum="4">

<Button

android:id="@+id/num4\_btn"

android:layout\_width="0dp"

android:layout\_height="60dp"

android:textColor="@color/white"

android:text="4"

android:layout\_weight="1"/>

<Button

android:id="@+id/num5\_btn"

android:layout\_width="0dp"

android:layout\_height="60dp"

android:textColor="@color/white"

android:text="5"

android:layout\_marginStart="10dp"

android:layout\_weight="1"/>

<Button

android:id="@+id/num6\_btn"

android:layout\_width="0dp"

android:layout\_height="60dp"

android:textColor="@color/white"

android:text="6"

android:layout\_marginStart="10dp"

android:layout\_weight="1"/>

<Button

android:id="@+id/substract\_btn"

android:layout\_width="0dp"

android:layout\_height="60dp"

android:textColor="@color/white"

android:text="-"

android:layout\_marginStart="10dp"

android:layout\_weight="1"/>

</LinearLayout>

<LinearLayout

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:orientation="horizontal"

android:layout\_marginTop="10dp"

android:weightSum="4">

<Button

android:id="@+id/num1\_btn"

android:layout\_width="0dp"

android:layout\_height="60dp"

android:textColor="@color/white"

android:text="1"

android:layout\_weight="1"/>

<Button

android:id="@+id/num2\_btn"

android:layout\_width="0dp"

android:layout\_height="60dp"

android:textColor="@color/white"

android:text="2"

android:layout\_marginStart="10dp"

android:layout\_weight="1"/>

<Button

android:id="@+id/num3\_btn"

android:layout\_width="0dp"

android:layout\_height="60dp"

android:textColor="@color/white"

android:text="3"

android:layout\_marginStart="10dp"

android:layout\_weight="1"/>

<Button

android:id="@+id/add\_btn"

android:layout\_width="0dp"

android:layout\_height="60dp"

android:textColor="@color/white"

android:text="+"

android:layout\_marginStart="10dp"

android:layout\_weight="1"/>

</LinearLayout>

<LinearLayout

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:orientation="horizontal"

android:layout\_marginTop="10dp"

android:weightSum="4">

<Button

android:id="@+id/numplusminus\_btn"

android:layout\_width="0dp"

android:layout\_height="60dp"

android:textColor="@color/white"

android:text="+/-"

android:layout\_weight="1"/>

<Button

android:id="@+id/num0\_btn"

android:layout\_width="0dp"

android:layout\_height="60dp"

android:textColor="@color/white"

android:text="0"

android:layout\_marginStart="10dp"

android:layout\_weight="1"/>

<Button

android:id="@+id/decimal\_btn"

android:layout\_width="0dp"

android:layout\_height="60dp"

android:textColor="@color/white"

android:text="."

android:layout\_marginStart="10dp"

android:layout\_weight="1"/>

<Button

android:id="@+id/equals\_btn"

android:layout\_width="0dp"

android:layout\_height="60dp"

android:textColor="@color/white"

android:text="="

android:layout\_marginStart="10dp"

android:layout\_weight="1"/>

</LinearLayout>

</LinearLayout>

</LinearLayout>

------------------------------------------------------------------- Java Code -------------------------------------------------------------------

package com.example.loginformques01;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;

public class CascadedCalculatorActivity extends AppCompatActivity {

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_cascaded\_calculator);

}

}

#############################################################################################################################################################

Gridlayout Calculator

------------------------------------------------------------------- XML Code -------------------------------------------------------------------

<?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:id="@+id/calculator\_mainlay"

android:layout\_width="match\_parent"

android:layout\_height="match\_parent"

android:orientation="vertical"

android:padding="20dp"

tools:context=".GridlayoutCalculatorActivity">

<EditText

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:layout\_marginTop="30dp"

android:hint="Number 01"

android:inputType="number" />

<EditText

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:layout\_marginTop="10dp"

android:hint="Number 02"

android:inputType="number" />

<EditText

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:layout\_marginTop="10dp"

android:clickable="false"

android:enabled="false"

android:hint="Result"

android:inputType="number" />

<LinearLayout

android:layout\_width="match\_parent"

android:layout\_height="match\_parent"

android:gravity="bottom"

android:orientation="vertical">

<GridLayout

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:layout\_marginTop="10dp"

android:columnCount="4"

android:orientation="horizontal"

android:rowCount="5">

<Button

android:layout\_marginTop="20dp"

android:padding="13dp"

android:text="CE"

android:textColor="@color/white" />

<Button

android:layout\_marginStart="10dp"

android:layout\_marginTop="20dp"

android:padding="13dp"

android:text="C"

android:textColor="@color/white" />

<Button

android:layout\_marginStart="10dp"

android:layout\_marginTop="20dp"

android:padding="13dp"

android:text="%"

android:textColor="@color/white" />

<Button

android:layout\_marginStart="10dp"

android:layout\_marginTop="20dp"

android:padding="13dp"

android:text="/"

android:textColor="@color/white" />

<Button

android:layout\_marginTop="20dp"

android:padding="13dp"

android:text="7"

android:textColor="@color/white" />

<Button

android:layout\_marginStart="10dp"

android:layout\_marginTop="20dp"

android:padding="13dp"

android:text="8"

android:textColor="@color/white" />

<Button

android:layout\_marginStart="10dp"

android:layout\_marginTop="20dp"

android:padding="13dp"

android:text="9"

android:textColor="@color/white" />

<Button

android:layout\_marginStart="10dp"

android:layout\_marginTop="20dp"

android:padding="13dp"

android:text="x"

android:textColor="@color/white" />

<Button

android:layout\_marginTop="20dp"

android:padding="13dp"

android:text="4"

android:textColor="@color/white" />

<Button

android:layout\_marginStart="10dp"

android:layout\_marginTop="20dp"

android:padding="13dp"

android:text="5"

android:textColor="@color/white" />

<Button

android:layout\_marginStart="10dp"

android:layout\_marginTop="20dp"

android:padding="13dp"

android:text="6"

android:textColor="@color/white" />

<Button

android:layout\_marginStart="10dp"

android:layout\_marginTop="20dp"

android:padding="13dp"

android:text="-"

android:textColor="@color/white" />

<Button

android:layout\_marginTop="20dp"

android:padding="13dp"

android:text="1"

android:textColor="@color/white" />

<Button

android:layout\_marginStart="10dp"

android:layout\_marginTop="20dp"

android:padding="13dp"

android:text="2"

android:textColor="@color/white" />

<Button

android:layout\_marginStart="10dp"

android:layout\_marginTop="20dp"

android:padding="13dp"

android:text="3"

android:textColor="@color/white" />

<Button

android:layout\_marginStart="10dp"

android:layout\_marginTop="20dp"

android:padding="13dp"

android:text="+"

android:textColor="@color/white" />

<Button

android:layout\_marginTop="20dp"

android:padding="13dp"

android:text="+/-"

android:textColor="@color/white" />

<Button

android:layout\_marginStart="10dp"

android:layout\_marginTop="20dp"

android:padding="13dp"

android:text="0"

android:textColor="@color/white" />

<Button

android:layout\_marginStart="10dp"

android:layout\_marginTop="20dp"

android:padding="13dp"

android:text="."

android:textColor="@color/white" />

<Button

android:layout\_marginStart="10dp"

android:layout\_marginTop="20dp"

android:padding="13dp"

android:text="="

android:textColor="@color/white" />

</GridLayout>

</LinearLayout>

</LinearLayout>

------------------------------------------------------------------- Java Code -------------------------------------------------------------------

package com.example.loginformques01;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;

public class GridlayoutCalculatorActivity extends AppCompatActivity {

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_gridlayout\_calculator);

}

}