PRACTICAL 4

AIM: Develop a standard calculator android application to perform basic calculations like addition, subtraction, multiplication, and division.

CODE:

MainActivity.java

package com.example.calculatorapp;

import android.os.Bundle;

import androidx.appcompat.app.AppCompatActivity;

import android.view.View;

import android.widget.EditText;

import android.widget.TextView;

public class MainActivity extends AppCompatActivity {

public EditText e1, e2;

TextView t1;

int num1, num2;

public boolean getNumbers() {

e1 = (EditText) findViewById(R.id.num1);

e2 = (EditText) findViewById(R.id.num2);

t1 = (TextView) findViewById(R.id.result);

String s1 = e1.getText().toString();

String s2 = e2.getText().toString();

try {

num1 = Integer.parseInt(s1);

num2 = Integer.parseInt(s2);

}

catch (NumberFormatException e) {

t1.setText("Invalid input");

return false;

}

return true;

}

public void doSum(View v) {

if (getNumbers()) {

int sum = num1 + num2;

t1.setText(Integer.toString(sum));

}

else

{

String s="Error Please enter proper values";

t1.setText(s);

}

}

public void doSub(View v) {

if (getNumbers()) {

int sum = num1 - num2;

t1.setText(Integer.toString(sum));

}

else

{

String s="Error Please enter proper values";

t1.setText(s);

}

}

public void doMul(View v) {

if (getNumbers()) {

int sum = num1 \* num2;

t1.setText(Integer.toString(sum));

}

else

{

String s="Error Please enter proper values";

t1.setText(s);

}

}

public void doDiv(View v) {

if (getNumbers()) {

double sum = num1 / (num2 \* 1.0);

t1.setText(Double.toString(sum));

}

else

{

String s="Error Please enter proper values";

t1.setText(s);

}

}

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main);

e1 = (EditText) findViewById(R.id.num1);

e2 = (EditText) findViewById(R.id.num2);

}

}

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:id="@+id/main"

android:layout\_width="match\_parent"

android:layout\_height="match\_parent"

tools:context=".MainActivity">

<TextView

android:id="@+id/headingMain"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_marginTop="30dp"

android:text="Simple Calculator"

android:textColor="@color/black"

android:textSize="34sp"

app:layout\_constraintEnd\_toEndOf="parent"

app:layout\_constraintStart\_toStartOf="parent"

app:layout\_constraintTop\_toTopOf="parent" />

<EditText

android:id="@+id/num1"

android:layout\_width="200dp"

android:layout\_height="52dp"

android:layout\_marginTop="71dp"

android:ems="10"

android:hint="Number 1"

android:inputType="number"

app:layout\_constraintEnd\_toEndOf="parent"

app:layout\_constraintStart\_toStartOf="parent"

app:layout\_constraintTop\_toBottomOf="@+id/headingMain" />

<EditText

android:id="@+id/num2"

android:layout\_width="200dp"

android:layout\_height="50dp"

android:layout\_marginTop="50dp"

android:ems="10"

android:inputType="number"

android:hint="Number 2"

app:layout\_constraintEnd\_toEndOf="parent"

app:layout\_constraintStart\_toStartOf="parent"

app:layout\_constraintTop\_toBottomOf="@+id/num1" />

<LinearLayout

android:id="@+id/horizontalLayout"

android:layout\_width="352dp"

android:layout\_height="wrap\_content"

android:layout\_marginLeft="20dp"

android:layout\_marginTop="10dp"

android:layout\_marginRight="20dp"

android:orientation="horizontal"

app:layout\_constraintBottom\_toBottomOf="parent"

app:layout\_constraintEnd\_toEndOf="parent"

app:layout\_constraintHorizontal\_bias="0.488"

app:layout\_constraintStart\_toStartOf="parent"

app:layout\_constraintTop\_toBottomOf="@+id/num2"

app:layout\_constraintVertical\_bias="0.113">

<LinearLayout

android:id="@+id/vertical1"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_marginRight="25dp"

android:layout\_weight="1"

android:orientation="vertical">

<Button

android:id="@+id/button1"

android:layout\_width="match\_parent"

android:layout\_height="match\_parent"

android:layout\_weight="1"

android:ellipsize="none"

android:minWidth="50dip"

android:paddingLeft="5dp"

android:paddingRight="6dp"

android:text="+"

android:textColor="@color/white"

android:backgroundTint="@color/black"

android:textColorLink="#6B1313"

android:textSize="24sp"

android:onClick="doSum"

android:textStyle="bold"

app:iconPadding="3dp"

app:iconSize="10dp" />

<Button

android:id="@+id/button2"

android:layout\_width="match\_parent"

android:layout\_height="match\_parent"

android:layout\_weight="1"

android:ellipsize="none"

android:minWidth="50dip"

android:paddingLeft="5dp"

android:paddingRight="6dp"

android:text="\*"

android:onClick="doMul"

android:textColor="@color/white"

android:backgroundTint="@color/black"

android:textColorLink="#6B1313"

android:textSize="24sp"

android:textStyle="bold"

app:iconPadding="3dp"

app:iconSize="10dp" />

</LinearLayout>

<LinearLayout

android:id="@+id/vertical2"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_marginLeft="25dp"

android:layout\_weight="1"

android:orientation="vertical">

<Button

android:id="@+id/button3"

android:layout\_width="match\_parent"

android:layout\_height="match\_parent"

android:layout\_weight="1"

android:ellipsize="none"

android:minWidth="50dip"

android:paddingLeft="5dp"

android:paddingRight="6dp"

android:text="-"

android:onClick="doSub"

android:textColor="@color/white"

android:backgroundTint="@color/black"

android:textColorLink="#6B1313"

android:textSize="24sp"

android:textStyle="bold"

app:iconPadding="3dp"

app:iconSize="10dp" />

<Button

android:id="@+id/button4"

android:layout\_width="match\_parent"

android:layout\_height="match\_parent"

android:layout\_weight="1"

android:ellipsize="none"

android:minWidth="50dip"

android:paddingLeft="5dp"

android:paddingRight="6dp"

android:text="/"

android:onClick="doDiv"

android:textColor="@color/white"

android:backgroundTint="@color/black"

android:textColorLink="#6B1313"

android:textSize="24sp"

android:textStyle="bold"

app:iconPadding="3dp"

app:iconSize="10dp" />

</LinearLayout>

</LinearLayout>

<TextView

android:id="@+id/result"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="Result"

android:textAlignment="center"

android:minWidth="250dp"

android:minHeight="30dp"

android:textSize="20dp"

app:layout\_constraintBottom\_toBottomOf="parent"

app:layout\_constraintEnd\_toEndOf="parent"

app:layout\_constraintStart\_toStartOf="parent"

app:layout\_constraintTop\_toBottomOf="@+id/horizontalLayout" />

</androidx.constraintlayout.widget.ConstraintLayout>

OUTPUT:

