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**Roll No:37**

**Batch: MCA B**

**Date:**

**MOBILE APPLICATION DEVELOPMENT LAB**

**Experiment No.: 3**

**Aim:**

Program to implement basic arithmetic operations of a simple calculator

**Procedure:**

**Xml file**

<?xml version="1.0" encoding="utf-8"?>

<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"

xmlns:tools="http://schemas.android.com/tools"

android:id="@+id/activity\_main"

android:layout\_width="match\_parent"

android:layout\_height="match\_parent"

android:orientation="vertical"

android:textAlignment="center"

android:weightSum="1">

<TextView

android:text="calculator"

android:layout\_width="match\_parent"

android:id="@+id/textView"

android:layout\_height="30dp"

android:gravity="center\_horizontal"

android:textColorLink="?android:attr/editTextColor"

android:textSize="40sp"

android:layout\_weight="0.07" />

<EditText

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:inputType="number"

android:ems="10"

android:id="@+id/editOp1"

android:textSize="18sp"

android:gravity="center\_horizontal"

android:layout\_marginBottom="5dp"

android:visibility="visible"

android:hint="first number"

android:layout\_marginLeft="30dp"

android:layout\_marginRight="30dp"/>

<EditText

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:inputType="number"

android:ems="10"

android:id="@+id/editOp2"

android:textSize="18sp"

android:gravity="center\_horizontal"

android:elevation="1dp"

android:hint="second number"

android:layout\_marginLeft="30dp"

android:layout\_marginRight="30dp"/>

<LinearLayout

android:orientation="horizontal"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content">

<Button

android:text="+"

android:layout\_width="78dp"

android:layout\_height="wrap\_content"

android:id="@+id/btnadd"

android:layout\_weight="0.01"

android:layout\_marginLeft="30dp"

android:layout\_marginRight="30dp"/>

<Button

android:text="-"

android:layout\_width="78dp"

android:layout\_height="wrap\_content"

android:id="@+id/btnsub"

android:layout\_weight="0.01"

android:layout\_marginLeft="30dp"

android:layout\_marginRight="30dp"/>

</LinearLayout>

<LinearLayout

android:orientation="horizontal"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content">

<Button

android:text="\*"

android:layout\_width="78dp"

android:layout\_height="wrap\_content"

android:id="@+id/btnmul"

android:layout\_weight="0.01"

android:layout\_marginLeft="30dp"

android:layout\_marginRight="30dp"/>

<Button

android:text="/"

android:layout\_height="wrap\_content"

android:id="@+id/btndiv"

android:layout\_width="78dp"

android:layout\_weight="0.01"

android:layout\_marginLeft="30dp"

android:layout\_marginRight="30dp"/>

</LinearLayout>

<LinearLayout

android:orientation="horizontal"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content">

<Button

android:text="Clear"

android:layout\_width="80dp"

android:layout\_height="wrap\_content"

android:id="@+id/btnclr"

android:layout\_weight="0.03"

android:layout\_marginLeft="30dp"

android:layout\_marginRight="30dp" />

</LinearLayout>

<EditText

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:inputType="number"

android:ems="10"

android:id="@+id/result"

android:textSize="18sp"

android:text="answer"

android:gravity="center\_horizontal"

android:layout\_marginLeft="30dp"

android:layout\_marginRight="30dp"/>

</LinearLayout>

**Java file**

package com.example.program1;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;

import android.view.View;

import android.widget.Button;

import android.widget.EditText;

import android.widget.TextView;

import android.widget.Toast;

public class MainActivity extends AppCompatActivity {

private EditText opr1;

private EditText opr2;

private Button btnadd;

private Button btnsub;

private Button btnmul;

private Button btndiv;

private Button btnclr;

private TextView txtresult;

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main);

opr1 = (EditText) findViewById(R.id.editOp1);

opr2 = (EditText) findViewById(R.id.editOp2);

btnadd = (Button) findViewById(R.id.btnadd);

btnsub = (Button) findViewById(R.id.btnsub);

btnmul = (Button) findViewById(R.id.btnmul);

btndiv = (Button) findViewById(R.id.btndiv);

btnclr = (Button) findViewById(R.id.btnclr);

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

btnadd.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View v) {

if((opr1.getText().length()>0) && (opr2.getText().length()>0)) {

double oper1 = Double.parseDouble(opr1.getText().toString());

double oper2 = Double.parseDouble(opr2.getText().toString());

double result = oper1 + oper2;

txtresult.setText(Double.toString(result));

}

else{

Toast toast= Toast.makeText(MainActivity.this,"Enter The Required Numbers",Toast.LENGTH\_LONG);

toast.show();

}

}

});

btnsub.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View v) {

if((opr1.getText().length()>0) && (opr2.getText().length()>0)) {

double oper1 = Double.parseDouble(opr1.getText().toString());

double oper2 = Double.parseDouble(opr2.getText().toString());

double result = oper1 - oper2;

txtresult.setText(Double.toString(result));

}

else{

Toast toast= Toast.makeText(MainActivity.this,"Enter The Required Numbers",Toast.LENGTH\_LONG);

toast.show();

}

}

});

btnmul.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View v) {

if((opr1.getText().length()>0) && (opr2.getText().length()>0)) {

double oper1 = Double.parseDouble(opr1.getText().toString());

double oper2 = Double.parseDouble(opr2.getText().toString());

double result = oper1 \* oper2;

txtresult.setText(Double.toString(result));

}

else{

Toast toast= Toast.makeText(MainActivity.this,"Enter The Required Numbers",Toast.LENGTH\_LONG);

toast.show();

}

}

});

btndiv.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View v) {

if((opr1.getText().length()>0) && (opr2.getText().length()>0)) {

double oper1 = Double.parseDouble(opr1.getText().toString());

double oper2 = Double.parseDouble(opr2.getText().toString());

double result = oper1 / oper2;

txtresult.setText(Double.toString(result));

}

else{

Toast toast= Toast.makeText(MainActivity.this,"Enter The Required Numbers",Toast.LENGTH\_LONG);

toast.show();

}

}

});

btnclr.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View v) {

opr1.setText("");

opr2.setText("");

txtresult.setText("0.00");

opr1.requestFocus();

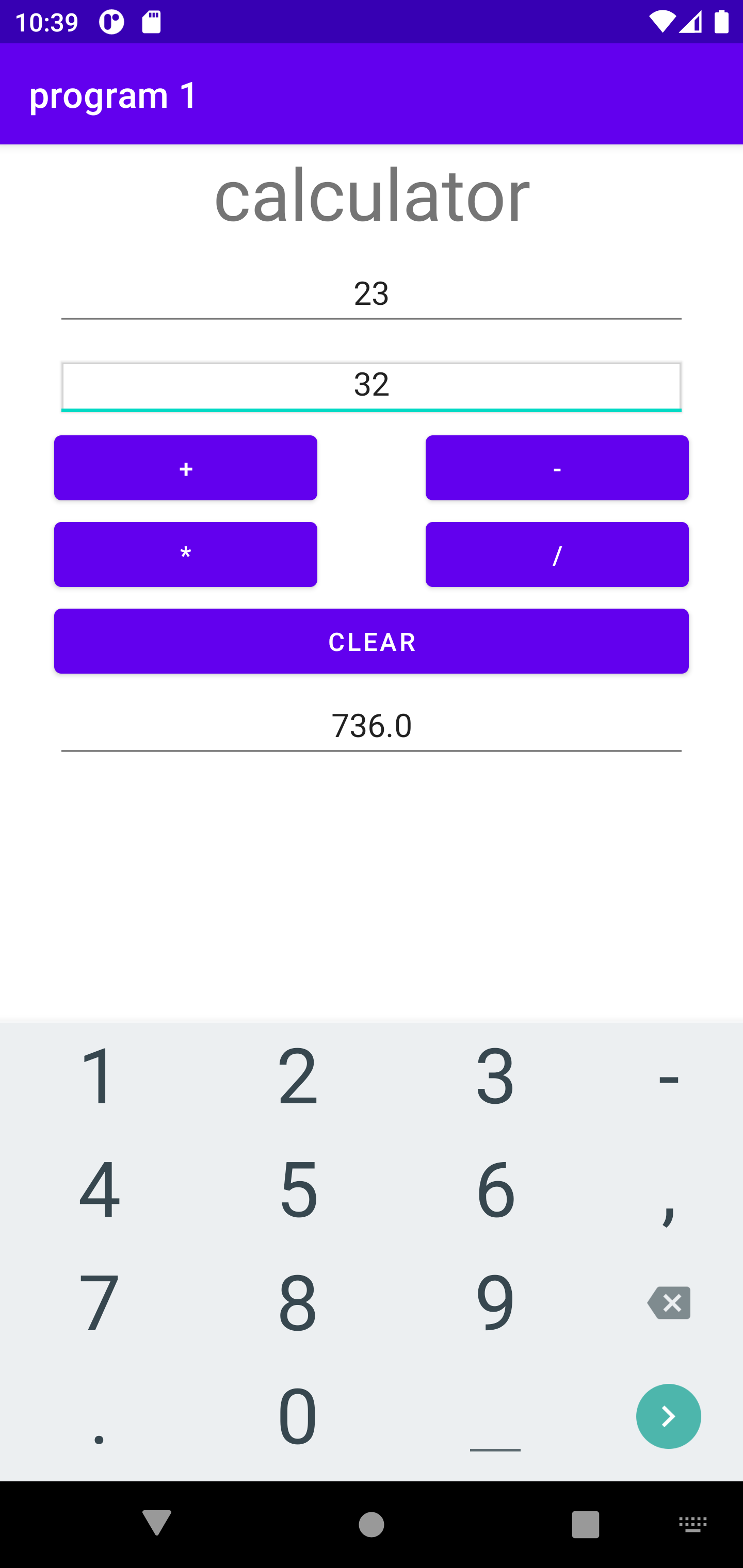
}

});

}

}

**Output:**

****