

ASSIGNMENT NO - 2

Aim : To write an android program to mimic the function of a calculator which must include some basic arithmetic operation like addition, subtraction, multiplication and division.

➤ **Description:**

I have to create an android application which will take the input from the user and give the result by performing the assigned operation like addition, subtraction, multiplication, division the steps are as follows :

- Create a new project.
- Name them as calculator.
- It will generate activity_main.xml and mainactivity.java file.
- Assigned all the functionality of the calculator like no, operation and many more.
- Perform the operation as required.

➤ **Expected input:**

My expected input the integer value.

➤ **Expected output:**

My expected output will be the result which will come after performing the operation .

➤ **Discussion:**

In this program I have to create the calculator with having the basic functionality like addition , subtraction, multiplication, division and no as well, when a user gives some input to the calculator it will perform the given task and display the result.

➤ **Error checking :**

I have done the error checking there is no any error the program is running well and fine.

➤ **Assumption taken:**

There is no any assumption.

➤ **Scope for improvement:**

Its user interface should be improved and database should be connected to store the data.

➤ **Additional feature :**

It will display all the data in proper format.

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:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity">

    <Button
        android:id="@+id/btnr"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="refresh"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.368"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.874" />

    <Button
        android:id="@+id/btne"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text=""
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.832"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.737" />

    <Button
        android:id="@+id/btnd"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="/"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.444"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.737" />
```

```

<Button
    android:id="@+id/btnm"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="*"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.05"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.737" />

<Button
    android:id="@+id/btns"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="-"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.832"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.631" />

<Button
    android:id="@+id/btnp"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="+"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.403"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.631" />

<Button
    android:id="@+id/btn4"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="4"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.049"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.409" />

<Button
    android:id="@+id/btn1"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="1"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.049"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.313" />

```

```
<Button
    android:id="@+id/btn0"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="0"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.044"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.631" />
```

```
<Button
    android:id="@+id/btn9"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="9"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.817"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.527" />
```

```
<Button
    android:id="@+id/btn8"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="8"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.416"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.527" />
```

```
<Button
    android:id="@+id/btn7"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="7"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.05"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.527" />
```

```
<Button
    android:id="@+id/btn6"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="6"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.817"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.409" />
```

```
<Button
```

```

        android:id="@+id/btn3"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="3"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.817"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.313" />

<Button
    android:id="@+id/btn2"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="2"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.416"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.313" />

<Button
    android:id="@+id/btn5"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="5"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.416"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.409" />

<TextView
    android:id="@+id/textView2"
    android:layout_width="333dp"
    android:layout_height="58dp"
    android:textSize="34sp"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.453"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.103" />
</androidx.constraintlayout.widget.ConstraintLayout>

```

Mainactivity.kt

```

package com.example.calculator

import androidx.appcompat.app.AppCompatActivity
import android.os.Bundle
import android.widget.Button

```

```

import android.widget.EditText
import android.widget.TextView

class MainActivity : AppCompatActivity() {
    override fun onCreate(savedInstanceState: Bundle?) {
        super.onCreate(savedInstanceState)
        setContentView(R.layout.activity_main)

        var value = findViewById<TextView>(R.id.textView2)
        var btn1 = findViewById<Button>(R.id.btn1)
        var btn2 = findViewById<Button>(R.id.btn2)
        var btn3 = findViewById<Button>(R.id.btn3)
        var btn4 = findViewById<Button>(R.id.btn4)
        var btn5 = findViewById<Button>(R.id.btn5)
        var btn6 = findViewById<Button>(R.id.btn6)
        var btn7 = findViewById<Button>(R.id.btn7)
        var btn8 = findViewById<Button>(R.id.btn8)
        var btn9 = findViewById<Button>(R.id.btn9)
        var btn0 = findViewById<Button>(R.id.btn0)

        var btnp = findViewById<Button>(R.id.btnp)
        var btns = findViewById<Button>(R.id.btns)
        var btnm = findViewById<Button>(R.id.btnm)
        var btnd = findViewById<Button>(R.id.btnd)
        var btne = findViewById<Button>(R.id.btne)
        var btnr = findViewById<Button>(R.id.btnr)

        var initial_value = ""
        var mo = ""

        btn1.setOnClickListener {
            var valu = value.text.toString()
            value.text = valu+"1"
        }

        btn2.setOnClickListener {
            var valu = value.text.toString()
            value.text = valu+"2"
        }

        btn3.setOnClickListener {
            var valu = value.text.toString()
            value.text = valu+"3"
        }

        btn4.setOnClickListener {
            var valu = value.text.toString()
            value.text = valu+"4"
        }

        btn5.setOnClickListener {
            var valu = value.text.toString()
            value.text = valu+"5"
        }

        btn6.setOnClickListener {
            var valu = value.text.toString()
            value.text = valu+"6"
        }

        btn7.setOnClickListener {

```

```

        var valu = value.text.toString()
        value.text = valu+"7"
    }

    btn8.setOnClickListener {
        var valu = value.text.toString()
        value.text = valu+"8"
    }

    btn9.setOnClickListener {
        var valu = value.text.toString()
        value.text = valu+"9"
    }

    btn0.setOnClickListener {
        var valu = value.text.toString()
        value.text = valu+"0"
    }

    btnp.setOnClickListener {
        var valu = value.text.toString()
        initial_value = valu
        mo = "+"
        value.text = ""
    }

    btns.setOnClickListener {
        var valu = value.text.toString()
        initial_value = valu
        mo = "-"
        value.text = ""
    }

    btnm.setOnClickListener {
        var valu = value.text.toString()
        initial_value = valu
        mo = "*"
        value.text = ""
    }

    btnd.setOnClickListener {
        var valu = value.text.toString()
        initial_value = valu
        mo = "/"
        value.text = ""
    }

    btne.setOnClickListener {
        var valu = value.text.toString()
        if (mo == "+") {
            var fin = initial_value.toInt()+valu.toInt()
            value.text = "$fin"
        }
        else if (mo == "-")
        {
            var fin = initial_value.toInt()-valu.toInt()
            value.text = "$fin"
        }
        else if (mo == "*")
        {
            var fin = initial_value.toInt()*valu.toInt()

```

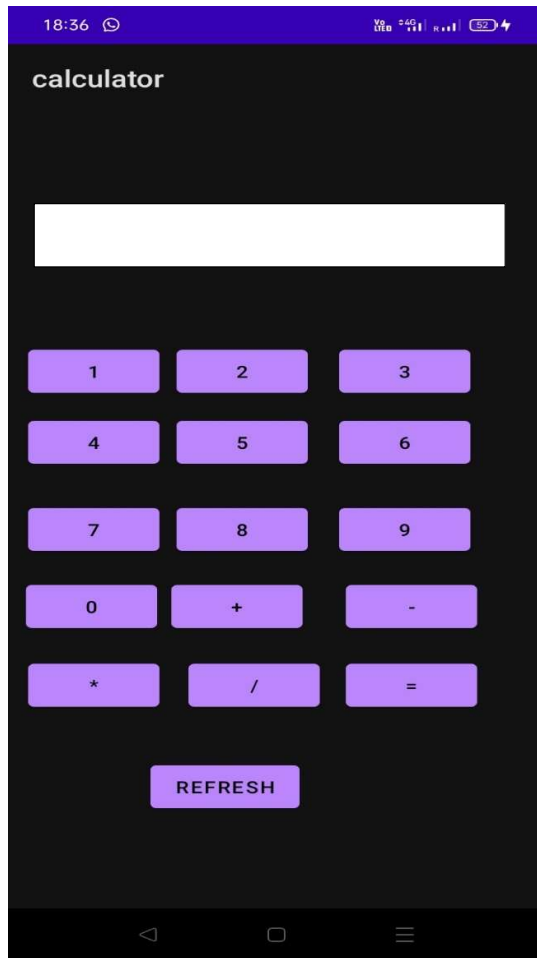
```
        value.text = "$fin"
    }
    else if (mo == "/")
    {
        var fin = initial_value.toInt()/valu.toInt()
        value.text = "$fin"
    }
}

btnr.setOnClickListener {
    initial_value = ""
    mo = ""
    value.text = ""
}

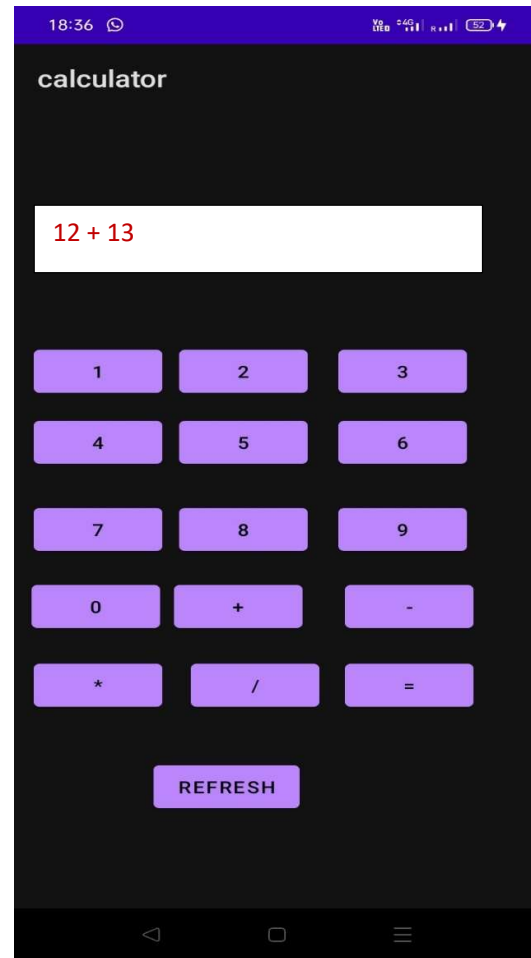
}

}
```


Output



Calculator



Giving input



Output