

NAME : Sanket sharma

course: BCA

SEC: A

ROLL NO: 53/1921158

QUES: Create a simple calculator .

ANS :

1.XML FILE

```
<?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"
    android:background="#8BC34A"
    android:backgroundTint="@android:color/darker_gray"
    tools:context=".MainActivity">

    <TextView
        android:layout_width="194dp"
        android:layout_height="43dp"
        android:layout_marginStart="114dp"
        android:layout_marginLeft="114dp"
        android:layout_marginTop="58dp"
        android:layout_marginEnd="103dp"
        android:layout_marginRight="103dp"
        android:layout_marginBottom="502dp"
```

```
android:scrollbarSize="30dp"
android:text=" Calculator"
android:textAppearance="@style/TextAppearance.AppCompat.Body1"
android:textSize="30dp"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent" />
```

<EditText

```
android:id="@+id/num1"
android:layout_width="364dp"
android:layout_height="28dp"
android:layout_marginStart="72dp"
android:layout_marginTop="70dp"
android:layout_marginEnd="71dp"
android:layout_marginBottom="416dp"
android:background="@android:color/white"
android:ems="10"
android:hint="Number1(0)"
android:inputType="number"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent" />
```

<EditText

```
android:id="@+id/num2"
android:layout_width="363dp"
android:layout_height="30dp"
android:layout_marginStart="72dp"
```

```
android:layout_marginTop="112dp"
android:layout_marginEnd="71dp"
android:layout_marginBottom="374dp"
android:background="@android:color/white"
android:ems="10"
android:hint="number2(0)"
android:inputType="number"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent" />
```

<TextView

```
android:id="@+id/result"
android:layout_width="356dp"
android:layout_height="71dp"
android:layout_marginStart="41dp"
android:layout_marginTop="151dp"
android:layout_marginEnd="48dp"
android:layout_marginBottom="287dp"
android:background="@android:color/white"
android:text="result"
android:textColorLink="#673AB7"
android:textSize="25sp"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent" />
```

<Button

```
android:id="@+id/sum"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_marginStart="16dp"
android:layout_marginTop="292dp"
android:layout_marginEnd="307dp"
android:layout_marginBottom="263dp"
android:backgroundTint="@android:color/holo_red_light"
android:onClick="doSum"
android:text="+"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent" />
```

```
<Button
android:id="@+id/sub"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_marginStart="210dp"
android:layout_marginTop="292dp"
android:layout_marginEnd="113dp"
android:layout_marginBottom="263dp"
android:backgroundTint="@android:color/holo_red_light"
android:onClick="doSub"
android:text="-"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent" />
```

```
<Button
    android:id="@+id/div"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginStart="307dp"
    android:layout_marginTop="292dp"
    android:layout_marginEnd="16dp"
    android:layout_marginBottom="263dp"
    android:backgroundTint="@android:color/holo_red_light"
    android:onClick="doDiv"
    android:text="/"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.0"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent" />
```

```
<Button
    android:id="@+id/mul"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginStart="16dp"
    android:layout_marginTop="356dp"
    android:layout_marginEnd="307dp"
    android:layout_marginBottom="199dp"
    android:backgroundTint="@android:color/holo_red_light"
    android:onClick="doMul"
    android:text="x"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
```

```
app:layout_constraintTop_toTopOf="parent" />
```

```
<Button
```

```
    android:id="@+id/button"
    android:layout_width="92dp"
    android:layout_height="48dp"
    android:layout_marginStart="113dp"
    android:layout_marginTop="356dp"
    android:layout_marginEnd="206dp"
    android:layout_marginBottom="199dp"
    android:backgroundTint="@android:color/holo_red_light"
    android:onClick="doMod"
    android:text="%(mod)"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent" />
```

```
<Button
```

```
    android:id="@+id/pow"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginStart="113dp"
    android:layout_marginTop="292dp"
    android:layout_marginEnd="210dp"
    android:layout_marginBottom="263dp"
    android:backgroundTint="@android:color/holo_red_light"
    android:onClick="doPow"
    android:text="n1^n2"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent" />
```

```
</androidx.constraintlayout.widget.ConstraintLayout>
```

2.MAIN ACTIVTY JAVA FILE

```
import mycalculator.appcompat.app.AppCompatActivity;
```

```
import androidx.appcompat.app.AppCompatActivity;
```

```
public class MainActivity extends AppCompatActivity {
```

```
    EditText e1, e2;
```

```
    TextView t1;
```

```
    int num1, num2;
```

```
    @Override
```

```
    protected void onCreate(Bundle savedInstanceState) {
```

```
        super.onCreate(savedInstanceState);
```

```

        setContentView(R.layout.activity_main);
    }

    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();

        if ((s1.equals(null) && s2.equals(null))
            || (s1.equals("") && s2.equals(""))) {

            String result = "Please enter a value";
            t1.setText(result);

            return false;
        } else {

            .

            num1 = Integer.parseInt(s1);

            num2 = Integer.parseInt(s2);

        }

        return true;
    }

```



```
}
```

```
public void doSum(View v) {  
    if (getNumbers()) {  
        int sum = num1 + num2;  
        t1.setText(Integer.toString(sum));  
    }  
}
```

```
public void doPow(View v) {  
  
    // get the input numbers  
    if (getNumbers()) {  
        double sum = Math.pow(num1, num2);  
        t1.setText(Double.toString(sum));  
    }  
}
```

```
public void doSub(View v) {  
  
    if (getNumbers()) {  
        int sum = num1 - num2;  
        t1.setText(Integer.toString(sum));  
    }  
}
```

```
public void doMul(View v) {  
  
    // get the input numbers  
    if (getNumbers()) {
```

```
        int sum = num1 * num2;

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

public void doDiv(View v) {

    if (getNumbers()) {

        // displaying the text in text view assigned as t1
        double sum = num1 / (num2 * 1.0);
        t1.setText(Double.toString(sum));
    }
}

public void doMod(View v) {

    // get the input numbers
    if (getNumbers()) {
        double sum = num1 % num2;
        t1.setText(Double.toString(sum));
    }
}
}
```

Output:

Calculator

Number1(0)

number2(0)

result

+

N1*N2

- /

X

%(MOD)