Program no:4

Aim: Implementing basic arithmetic operations of a simple calculator

XML Code:

```
<?xmlversion="1.0"encoding="utf-8"?>
<LinearLayoutxmlns: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"
android:padding="20dp"
android:orientation="vertical"
android:background="@color/pastel">
<TextView
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:text="CALCULATOR"
android:textSize="25sp"
android:layout_marginBottom="16dp"
android:textColor="@android:color/black"/>
<LinearLayout
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:orientation="horizontal"
android:layout_marginBottom="20dp">
<EditText
android:id="@+id/first_no"
android:layout_width="102dp"
android:layout_height="59dp"
android:ems="10"
android:layout_marginHorizontal="50dp"
android:hint="Enter"/>
```

```
<EditText
android:id="@+id/second_no"
android:layout_width="102dp"
android:layout_height="59dp"
android:ems="10"
android:hint="Enter"/>

 </LinearLayout>
<LinearLayout
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:orientation="horizontal"
android:layout_marginBottom="20dp">
<TextView
android:textSize="35sp"
android:id="@+id/answer"
android:layout_width="102dp"
android:layout_height="59dp"
 android:layout_marginHorizontal="50dp"
 android:hint="ans"/>

 </LinearLayout>

 <LinearLayoutandroid:orientation="ver
 tical"
 android:layout_marginLeft="250dp"
 android:layout_width="wrap_content"
 android:layout_height="wrap_content"
 android:layout_marginBottom="30dp">

 <Button
 android:id="@+id/sub"
 android:layout_width="wrap_content"
 android:layout_height="wrap_content"
```

```
 android:text="-"
 android:textSize="25sp"
 android:layout_marginBottom="16dp"/>
<Button
android:id="@+id/add"
 android:layout_width="wrap_content"
 android:layout_height="wrap_content"
 android:layout_marginBottom="16dp"
 android:text="+"
 android:textSize="25sp"
 tools:ignore="OnClick"/>
<Button
android:id="@+id/div"
 android:layout_width="wrap_content"
 android:layout_height="wrap_content"
 android:text="/"
 android:textSize="25sp"
 android:layout_marginBottom="16dp"/>

 <Button
android:id="@+id/mul"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_marginBottom="16dp"
android:text="X"
android:textSize="25sp"/>
<Button
android:id="@+id/equals"
 android:layout_width="wrap_content"
 android:layout_height="wrap_content"
 android:layout_marginBottom="16dp"
 android:text="="
 android:textSize="35sp"/>
 </LinearLayout>
```

</LinearLayout>

Java Code:

```
package com.example.calculator;
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 { EditText no1 , no2;
Button add ,mul ,div , sub,equal;
TextView answer;
double ans = 0;
 @Override
protected void onCreate(Bundle savedInstanceState) { super.onCreate(savedInstanceState);
 setContentView(R.layout.activity_main);
no1 = findViewById(R.id.first_no);
 no2 = findViewById(R.id.second_no);
add = findViewById(R.id.add);
mul = findViewById(R.id.mul);
 div = findViewById(R.id.div);
sub = findViewById(R.id.sub);

equal = findViewById(R.id.equals);
answer = findViewById(R.id.answer);
add.setOnClickListener(new View.OnClickListener() {
@Override
public void onClick(View v) {
String num1 = no1.getText().toString();
String num2 = no2.getText().toString();
 if (num1.isEmpty() || num2.isEmpty()) {
Toast.makeText(getApplicationContext(),"Enter Numbers",Toast.LENGTH_SHORT).show();
```

```
}
else {
double a = Double.parseDouble(no1.getText().toString());
double b = Double.parseDouble(no2.getText().toString());
ans = a + b;
}
}
});

sub.setOnClickListener(new View.OnClickListener() {
@Override
public void onClick(View v) {
String num1 = no1.getText().toString();
 String num2 = no2.getText().toString();
 if (num1.isEmpty() || num2.isEmpty()) {
Toast.makeText(getApplicationContext(),"Enter Numbers",Toast.LENGTH_SHORT).show();
}
else {
double a = Double.parseDouble(no1.getText().toString());
double b = Double.parseDouble(no2.getText().toString());
ans = a - b;
}
}
});
mul.setOnClickListener(new View.OnClickListener() {
 @Override
public void onClick(View v) {
String num1 = no1.getText().toString();
String num2 = no2.getText().toString();
 if (num1.isEmpty() || num2.isEmpty()) {
Toast.makeText(getApplicationContext(),"Enter Numbers",Toast.LENGTH_SHORT).show();

}
else {
```

```
double a = Double.parseDouble(no1.getText().toString());
 double b = Double.parseDouble(no2.getText().toString());
 ans = a * b;
}
}
});
div.setOnClickListener(new View.OnClickListener() {
@Override
public void onClick(View v) {
String num1 = no1.getText().toString();
 String num2 = no2.getText().toString();
 if (num1.isEmpty() || num2.isEmpty()) {
Toast.makeText(getApplicationContext(), "Enter Numbers", Toast.LENGTH_SHORT).show();
} else {
double a = Double.parseDouble(no1.getText().toString());
double b = Double.parseDouble(no2.getText().toString());
if (b != 0)
ans = a / b; else
Toast.makeText(getApplicationContext(), "Enter Valid Numbers", Toast.LENGTH_SHORT).show();
}
}
 });
equal.setOnClickListener(new View.OnClickListener() {
 @Override
public void onClick(View v) {
String ans1 = String.valueOf(ans);
}
});
}
}
answer.setText(ans1); ans= 0;
}
});}
```

Output: