**Exp No.5**

**Rishab Mandal**

**Batch: C23**

**Code:**

activity\_main.xml

<?xml version="1.0" encoding="utf-8"?>  
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"  
 xmlns:tools="http://schemas.android.com/tools"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 android:padding="16dp"  
 tools:context=".MainActivity">

<TextView  
 android:id="@+id/textView"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_centerHorizontal="true"  
 android:text="C23\nRishab Mandal\nRoll no: 2103110"  
 android:textColor="@android:color/black"  
 android:textSize="20sp"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintStart\_toStartOf="parent" />

<!-- Title -->  
 <TextView  
 android:id="@+id/textViewTitle"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:text="EMI Calculator"  
 android:textSize="24sp"  
 android:textStyle="bold"  
 android:gravity="center"  
 android:layout\_marginBottom="180dp"/>  
  
 <LinearLayout  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:layout\_below="@id/textViewTitle"  
 android:orientation="vertical">  
  
 <!-- Input fields -->  
 <EditText  
 android:id="@+id/editTextPrincipal"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:hint="Principal Amount"  
 android:inputType="numberDecimal"  
 android:padding="12dp"  
 android:background="@drawable/edit\_text\_bg"  
 android:textColor="@android:color/black"  
 android:textSize="16sp"  
 android:layout\_marginBottom="16dp"/>  
  
 <EditText  
 android:id="@+id/editTextInterestRate"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:hint="Interest Rate (%)"  
 android:inputType="numberDecimal"  
 android:padding="12dp"  
 android:background="@drawable/edit\_text\_bg"  
 android:textColor="@android:color/black"  
 android:textSize="16sp"  
 android:layout\_marginBottom="16dp"/>  
  
 <EditText  
 android:id="@+id/editTextTenure"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:hint="Loan Tenure (in months)"  
 android:inputType="number"  
 android:padding="12dp"  
 android:background="@drawable/edit\_text\_bg"  
 android:textColor="@android:color/black"  
 android:textSize="16sp"  
 android:layout\_marginBottom="24dp"/>  
  
 <!-- Calculate button -->  
 <androidx.appcompat.widget.AppCompatButton  
 android:id="@+id/buttonCalculate"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:text="Calculate"  
 android:textColor="@android:color/white"  
 android:textSize="18sp"  
 android:background="@drawable/button\_bg"  
 android:padding="16dp"  
 android:layout\_marginBottom="24dp"/>  
  
 <!-- Result -->  
 <TextView  
 android:id="@+id/textViewResult"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:gravity="center"  
 android:text="EMI: "  
 android:textSize="20sp" />  
 </LinearLayout>  
  
</RelativeLayout>

edit\_text\_bg.xml

<!-- edit\_text\_bg.xml -->  
<shape xmlns:android="http://schemas.android.com/apk/res/android"  
 android:shape="rectangle">  
 <solid android:color="#F0F0F0"/> <!-- Background color -->  
 <corners android:radius="8dp"/> <!-- Rounded corners -->  
 <stroke  
 android:width="1dp"  
 android:color="#CCCCCC"/> <!-- Border color and width -->  
</shape>

button\_bg.xml

<!-- button\_bg.xml -->  
<shape xmlns:android="http://schemas.android.com/apk/res/android"  
 android:shape="rectangle">  
 <solid android:color="#007ACC"/> <!-- Button background color -->  
 <corners android:radius="8dp"/> <!-- Rounded corners -->  
</shape>

MainActivity.java

package com.example.emicaluclator**;**import android.os.Bundle**;**import android.view.View**;**import android.widget.Button**;**import android.widget.EditText**;**import android.widget.TextView**;**import androidx.appcompat.app.AppCompatActivity**;**public class MainActivity extends AppCompatActivity {  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState)**;** setContentView(R.layout.*activity\_main*)**;** final EditText editTextPrincipal = findViewById(R.id.*editTextPrincipal*)**;** final EditText editTextInterestRate = findViewById(R.id.*editTextInterestRate*)**;** final EditText editTextTenure = findViewById(R.id.*editTextTenure*)**;** Button buttonCalculate = findViewById(R.id.*buttonCalculate*)**;** final TextView textViewResult = findViewById(R.id.*textViewResult*)**;** buttonCalculate.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View v) {  
 double principal = Double.*parseDouble*(editTextPrincipal.getText().toString())**;** double interestRate = Double.*parseDouble*(editTextInterestRate.getText().toString()) / **100** / **12;** double tenure = Double.*parseDouble*(editTextTenure.getText().toString())**;** double emi = calculateEMI(principal**,** interestRate**,** tenure)**;** textViewResult.setText("EMI: " + emi)**;** }  
 })**;** }  
  
 private double calculateEMI(double principal**,** double interestRate**,** double tenure) {  
 double base = **1** + interestRate**;** double power = (-tenure)**;** double emi = principal \* interestRate \* (Math.*pow*(base**,** power)) / (**1** - Math.*pow*(base**,** power))**;** return emi**;** }  
}

**Output:**



