## VISVESVARAYA TECHNOLOGICAL UNIVERSITY

"Jnana Sangama", Belagavi, Karnataka, India.



A Mini Project Report On

## CAR EMI CALCULATOR

Submitted in partial fulfillment of the requirement for VI Semester

Mobile Application Development Laboratory[18CSMP68]

in Computer Science and Engineering

Submitted By

PAVITHRA K TANTRY [1GA18CS189] NISHA BHAT BALANJA [1GA18CS192]

Under the guidance of

SHYAM SUNDAR BHUSHAN, Assistant Professor TANUSHREE K N, Assistant Professor



Department of Computer Science and Engineering (Accredited by NBA 2019-2022)
GLOBAL ACADEMY OF TECHNOLOGY

Rajarajeshwari Nagar, Bengaluru - 560 098

2020 - 2021

## **ABSTRACT**

The Equated Monthly Instalment (EMI) consists of the principal portion of the loan amount and the Interest. Therefore, EMI = principal amount + interest paid on the Car Loan. The formula to calculate EMI is

$$E = P * (r(1+r)n)/((1+r)n-1)$$

where,

E =The EMI payable on the car loan amount

P = The Car loan Principal Amount

r =The interest rate value computed on a monthly basis

n =The loan tenure in the form of months

The down payment amount has to be deducted from the principal amount paid towards buying the Car.

**Car EMI calculator** is a great tool that provides you with the answer in a split second and enables you to understand how much will be your EMI outgo.

### **IMPLEMENTATION**

#### Program code:

```
activity_main.xml
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout</pre>
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:id="@+id/lblpayment"
    android:layout width="match parent"
    android:layout height="match parent"
    android:background="#371228EF"
    tools:context=".MainActivity">
    <TextView
        android:id="@+id/textView"
        android:layout width="198dp"
        android:layout height="70dp"
        android:fontFamily="sans-serif-black"
        android:text="EMI CALCULATOR"
        android:textSize="26sp"
        android:textStyle="bold"
        app:layout constraintBottom toBottomOf="@+id/textView3"
        app:layout constraintEnd toEndOf="parent"
        app:layout constraintHorizontal bias="0.896"
        app:layout constraintStart toStartOf="parent"
        app:layout constraintTop toTopOf="parent"
        app:layout constraintVertical bias="0.591" />
    <TextView
        android:id="@+id/textView2"
        android:layout width="wrap content"
        android:layout height="wrap content"
        android:layout marginStart="16dp"
        android:layout marginTop="92dp"
        android:text="Principal Amount"
        android:textStyle="bold"
        app:layout constraintStart toStartOf="parent"
        app:layout constraintTop toBottomOf="@+id/textView" />
```

```
<EditText
    android:id="@+id/txt principal"
    android:layout width="wrap content"
    android:layout height="wrap content"
    android:layout marginStart="52dp"
    android:layout marginTop="92dp"
    android:ems="10"
    android:inputType="textPersonName"
    app:layout constraintStart toEndOf="@+id/textView2"
    app:layout constraintTop toBottomOf="@+id/textView" />
<TextView
    android:id="@+id/textView3"
    android:layout width="373dp"
    android:layout height="143dp"
    android:layout marginTop="20dp"
    android:background="#371228EF"
    app:layout constraintEnd toEndOf="parent"
    app:layout constraintHorizontal bias="0.421"
    app:layout constraintStart toStartOf="parent"
    app:layout constraintTop toTopOf="parent" />
<TextView
   android:id="@+id/downpayment"
    android:layout width="wrap content"
    android:layout height="wrap content"
    android:text="Down Payment"
    android:textStyle="bold"
    app:layout constraintStart toStartOf="@+id/textView2"
    app:layout constraintTop toTopOf="@+id/txt downnpayment" />
<EditText
    android:id="@+id/txt downnpayment"
    android:layout width="wrap content"
    android:layout height="wrap content"
    android:layout marginTop="40dp" android:ems="10"
    android:inputType="textPersonName"
    app:layout constraintStart toStartOf="@+id/txt principal"
    app:layout constraintTop toBottomOf="@+id/txt principal"/>
<TextView
    android:id="@+id/textView4"
```

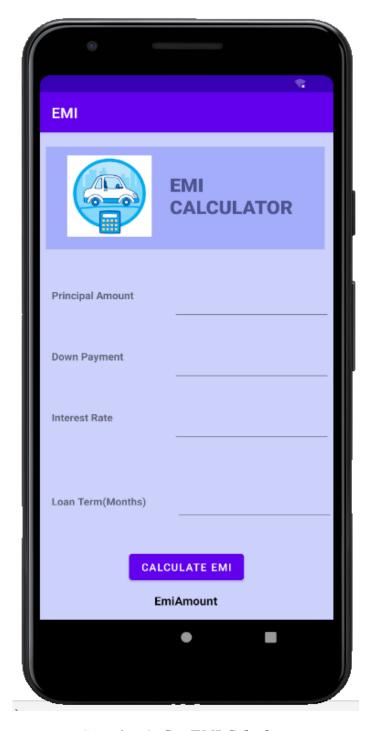
```
android:layout width="wrap content"
    android:layout height="wrap content"
    android:text="Interest Rate"
    android:textStyle="bold"
    app:layout_constraintStart_toStartOf="@+id/downpayment"
    app:layout constraintTop toTopOf="@+id/txt interestrate" />
<EditText
    android:id="@+id/txt interestrate"
    android:layout width="wrap content"
    android:layout height="wrap content"
    android:layout marginTop="40dp"
    android:ems="10"
    android:inputType="textPersonName"
    app:layout constraintStart toStartOf="@+id/txt downnpayment"
    app:layout constraintTop toBottomOf="@+id/txt downnpayment"/>
<TextView
   android:id="@+id/textView5"
    android:layout width="130dp"
    android:layout height="33dp"
    android:layout marginTop="8dp"
    android:text="Loan Term(Months)"
    android:textStyle="bold"
    app:layout constraintStart toStartOf="@+id/textView4"
    app:layout constraintTop toTopOf="@+id/txt termmonths" />
<EditText
    android:id="@+id/txt_termmonths"
    android:layout width="wrap content"
    android:layout height="wrap content"
    android:layout marginStart="4dp"
    android:layout marginTop="64dp"
    android:ems="10"
    android:inputType="textPersonName"
    app:layout constraintStart toStartOf="@+id/txt interestrate"
    app:layout constraintTop toBottomOf="@+id/txt interestrate" />
<Button
    android:id="@+id/btn calculate"
    android:layout width="wrap content"
    android:layout height="wrap content"
    android:layout marginTop="40dp"
```

```
android:text="Calculate EMI"
        app:layout constraintEnd toEndOf="parent"
        app:layout constraintStart toStartOf="parent"
        app:layout constraintTop toBottomOf="@+id/txt termmonths" />
    <TextView
        android:id="@+id/lbl emiamount"
        android:layout width="wrap content"
        android:layout height="wrap content"
        android:layout marginTop="12dp"
        android:text="EmiAmount"
        android:textColor="@color/black"
        android:textSize="16sp"
        android:textStyle="bold"
        app:layout constraintEnd toEndOf="parent"
        app:layout constraintHorizontal bias="0.498"
        app:layout constraintStart toStartOf="parent"
        app:layout constraintTop toBottomOf="@+id/btn calculate" />
    <ImageView</pre>
        android:id="@+id/imageView3"
        android:layout width="147dp"
        android:layout height="113dp"
        android:layout marginStart="20dp"
        app:layout constraintBottom toTopOf="@+id/textView2"
        app:layout constraintStart toStartOf="parent"
        app:layout constraintTop toTopOf="parent"
        app:layout constraintVertical bias="0.307"
        app:srcCompat="@drawable/car loan calculator" />
</androidx.constraintlayout.widget.ConstraintLayout>
MainActivity.java
package com.example.emi;
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;
```

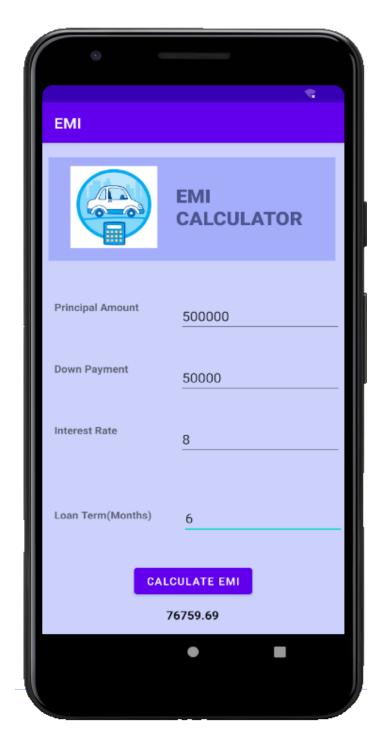
```
import java.text.DecimalFormat;
import java.util.logging.SimpleFormatter;
public class MainActivity extends AppCompatActivity implements
View.OnClickListener {
    EditText txtPrinicple,txtDownPayment,txtInterestRate,txtLoanTerm;
    Button btnCalculate; TextView lblResult;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity main);
        txtPrinicple=(EditText)findViewById(R.id.txt principal);
        txtDownPayment=(EditText)findViewById(R.id.txt downnpayment);
        txtInterestRate=(EditText)findViewById(R.id.txt interestrate);
        txtLoanTerm=(EditText)findViewById(R.id.txt termmonths);
        btnCalculate=(Button)findViewById(R.id.btn calculate);
        btnCalculate.setOnClickListener(this);
        lblResult=(TextView)findViewById(R.id.lbl emiamount);
    public void onClick(View v) {
 try {
      DecimalFormat formatter=new DecimalFormat("#0.00");
          double prinicipleAmount= Double.parseDouble(txtPrinicple.
getText().toString());
          double
downPayment=Double.parseDouble(txtDownPayment.getText().toString());
        prinicipleAmount=prinicipleAmount-downPayment;
        double
interestRate=Double.parseDouble(txtInterestRate.getText().toString());
        interestRate=interestRate/(12*100);
loanTerm=Double.parseDouble(txtLoanTerm.getText().toString());
        double emi=prinicipleAmount*
(interestRate*Math.pow((1+interestRate),loanTerm))
/(Math.pow((1+interestRate),loanTerm)-1);
        lblResult.setText(String.valueOf(formatter.format(emi)));
  catch(Exception e) {
      Toast.makeText(getBaseContext(), "InvalidInput",
```

```
Toast.LENGTH_LONG).show();
     }
}
```

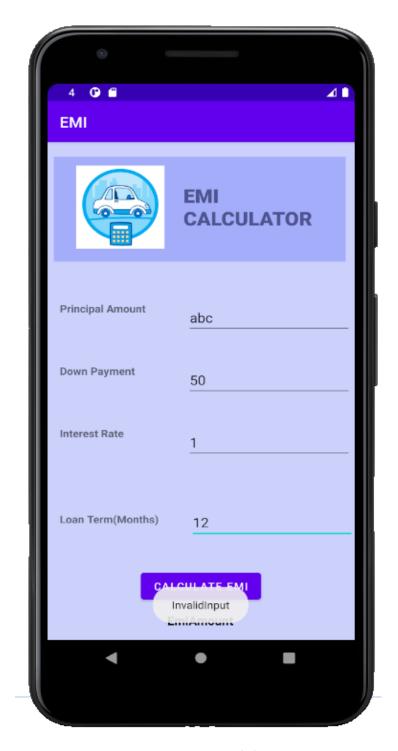
# **RESULTS**



Snapshot 1: Car EMI Calculator



Snapshot 2: Valid Input



Snapshot 3: Invalid Input