**Experiment No :- 8**

**1. Code for activity\_main.xml.**

<android.support.design.widget.CoordinatorLayout

xmlns:android="http://schemas.android.com/apk/res/android"

android:layout\_width="match\_parent"

xmlns:tools="http://schemas.android.com/tools"

xmlns:app="http://schemas.android.com/apk/res-auto"

tools:context="abu.emicalculator.MainActivity"

android:layout\_height="match\_parent">

<android.support.v4.widget.NestedScrollView

android:layout\_width="match\_parent"

android:layout\_height="match\_parent"

app:layout\_behavior="@string/appbar\_scrolling\_view\_behavior">

<LinearLayout

android:layout\_width="fill\_parent"

android:layout\_height="match\_parent"

android:layout\_marginTop="?attr/actionBarSize"

android:orientation="vertical"

android:paddingLeft="20dp"

android:paddingRight="20dp"

android:paddingTop="10dp">

<android.support.design.widget.TextInputLayout

android:id="@+id/input\_layout\_principal"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content">

<EditText

android:id="@+id/principal"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:singleLine="true"

android:inputType="number"

android:digits="0123456789."

android:hint="@string/hint\_principal" />

</android.support.design.widget.TextInputLayout>

<android.support.design.widget.TextInputLayout

android:id="@+id/input\_layout\_interest"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content">

<EditText

android:id="@+id/interest"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:singleLine="true"

android:inputType="number"

android:digits="0123456789."

android:hint="@string/hint\_interest" />

</android.support.design.widget.TextInputLayout>

<android.support.design.widget.TextInputLayout

android:id="@+id/input\_layout\_tenure"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content">

<EditText

android:id="@+id/years"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:inputType="number"

android:digits="0123456789."

android:hint="@string/hint\_years" />

</android.support.design.widget.TextInputLayout>

<Button android:id="@+id/btn\_calculate2"

android:layout\_width="fill\_parent"

android:layout\_height="wrap\_content"

android:text="Calculate"

android:background="@color/colorPrimary"

android:layout\_marginTop="40dp"

android:textColor="@android:color/white"/>

<android.support.design.widget.TextInputLayout

android:id="@+id/input\_layout\_emi"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:layout\_marginTop="40dp">

<EditText

android:id="@+id/emi"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:maxEms="0"

android:inputType="number"

android:hint="@string/hint\_emi" />

</android.support.design.widget.TextInputLayout>

<android.support.design.widget.TextInputLayout

android:id="@+id/input\_layout\_total\_Interest"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:layout\_marginTop="10dp">

<EditText

android:id="@+id/interest\_total"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:inputType="number"

android:hint="@string/hint\_interest\_total" />

</android.support.design.widget.TextInputLayout>

</LinearLayout>

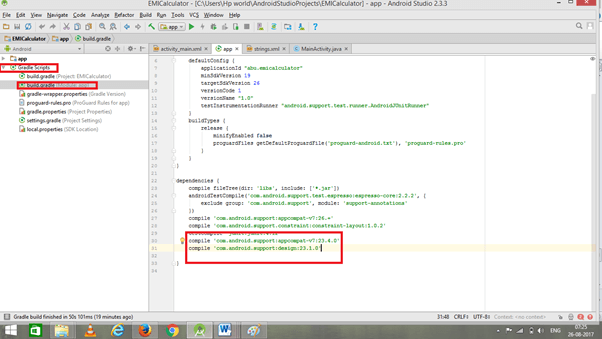
</android.support.v4.widget.NestedScrollView>

</android.support.design.widget.CoordinatorLayout>

**2. Go to (gradle scripts ⇒ build.gradle(moduleapp). And, add the below code.**

compile 'com.android.support:appcompat-v7:23.4.0'

compile 'com.android.support:design:23.1.0'



**3. Go to (App ⇒ Res ⇒values⇒String.xml).**

<resources>

<string name="app\_name">EMI Calculator</string>

<string name="hint\_principal">Principal Amount ₹</string>

<string name="hint\_interest">Interest rate per Year %</string>

<string name="hint\_years">How Many Years</string>

<string name="hint\_emi">EMI ₹</string>

<string name="hint\_interest\_total">Total Interest for Loan ₹</string>

</resources>

**4. code for Main Activity.java.**

package abu.emicalculator;

import android.os.Bundle;

import android.support.v7.app.AppCompatActivity;

import android.text.TextUtils;

import android.view.View;

import android.widget.Button;

import android.widget.EditText;

public class MainActivity extends AppCompatActivity {

Button emiCalcBtn;

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main);

final EditText P = (EditText)findViewById(R.id.principal);

final EditText I = (EditText)findViewById(R.id.interest);

final EditText Y = (EditText)findViewById(R.id.years);

final EditText TI = (EditText)findViewById(R.id.interest\_total);

final EditText result = (EditText)findViewById(R.id.emi) ;

emiCalcBtn = (Button) findViewById(R.id.btn\_calculate2);

emiCalcBtn.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View v) {

String st1 = P.getText().toString();

String st2 = I.getText().toString();

String st3 = Y.getText().toString();

if (TextUtils.isEmpty(st1)) {

P.setError("Enter Prncipal Amount");

P.requestFocus();

return;

}

if (TextUtils.isEmpty(st2)) {

I.setError("Enter Interest Rate");

I.requestFocus();

return;

}

if (TextUtils.isEmpty(st3)) {

Y.setError("Enter Years");

Y.requestFocus();

return;

}

float p = Float.parseFloat(st1);

float i = Float.parseFloat(st2);

float y = Float.parseFloat(st3);

float Principal = calPric(p);

float Rate = calInt(i);

float Months = calMonth(y);

float Dvdnt = calDvdnt( Rate, Months);

float FD = calFinalDvdnt (Principal, Rate, Dvdnt);

float D = calDivider(Dvdnt);

float emi = calEmi(FD, D);

float TA = calTa (emi, Months);

float ti = calTotalInt(TA, Principal);

result.setText(String.valueOf(emi));

TI.setText(String.valueOf(ti));

}

});

}

public float calPric(float p) {

return (float) (p);

}

public float calInt(float i) {

return (float) (i/12/100);

}

public float calMonth(float y) {

return (float) (y \* 12);

}

public float calDvdnt(float Rate, float Months) {

return (float) (Math.pow(1+Rate, Months));

}

public float calFinalDvdnt(float Principal, float Rate, float Dvdnt) {

return (float) (Principal \* Rate \* Dvdnt);

}

public float calDivider(float Dvdnt) {

return (float) (Dvdnt-1);

}

public float calEmi(float FD, Float D) {

return (float) (FD/D);

}

public float calTa(float emi, Float Months) {

return (float) (emi\*Months);

}

public float calTotalInt(float TA, float Principal) {

return (float) (TA - Principal);

}

}

**OUTPUT:-**

