**Activity\_main.xml**

**<?xml version="1.0" encoding="utf-8"?>**

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

**android:layout\_width="match\_parent"**

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

**android:orientation="vertical"**

**android:padding="20dp">**

**<EditText**

**android:id="@+id/editTextMobile"**

**android:layout\_width="match\_parent"**

**android:layout\_height="48dp"**

**android:minHeight="48dp"**

**android:hint="@string/hint\_mobile\_number"**

**android:inputType="number"**

**android:autofillHints="phone"**

**android:padding="12dp" />**

**<EditText**

**android:id="@+id/editTextUnits"**

**android:layout\_width="match\_parent"**

**android:layout\_height="48dp"**

**android:minHeight="48dp"**

**android:hint="@string/hint\_units\_consumed"**

**android:inputType="number"**

**android:autofillHints="username"**

**android:padding="12dp" />**

**<Button**

**android:id="@+id/buttonCalculate"**

**android:layout\_width="match\_parent"**

**android:layout\_height="48dp"**

**android:text="@string/button\_calculate\_sms"**

**android:layout\_marginTop="20dp" />**

**<TextView**

**android:id="@+id/textViewResult"**

**android:layout\_width="match\_parent"**

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

**android:textSize="18sp"**

**android:layout\_marginTop="10dp"**

**android:textColor="#000000" />**

**</LinearLayout>**

**AndroidManifest.xml**

**<?xml version="1.0" encoding="utf-8"?>**

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

**package="com.example.electricity">**

**<!-- Permissions for sending SMS -->**

**<uses-permission android:name="android.permission.SEND\_SMS"/>**

**<uses-permission android:name="android.permission.INTERNET"/>**

**<uses-permission android:name="android.permission.READ\_PHONE\_STATE"/>**

**<!-- Feature declaration to avoid errors -->**

**<uses-feature android:name="android.hardware.telephony" android:required="false"/>**

**<application**

**android:allowBackup="true"**

**android:icon="@mipmap/ic\_launcher"**

**android:label="@string/app\_name"**

**android:theme="@style/Theme.Electricity">**

**<activity android:name=".MainActivity"**

**android:exported="true">**

**<intent-filter>**

**<action android:name="android.intent.action.MAIN"/>**

**<category android:name="android.intent.category.LAUNCHER"/>**

**</intent-filter>**

**</activity>**

**</application>**

**</manifest>**

**MainActivity.java**

**package com.example.electricity; // Ensure this matches your package name**

**import android.Manifest;**

**import android.content.pm.PackageManager;**

**import android.os.Bundle;**

**import android.telephony.SmsManager;**

**import android.view.View;**

**import android.widget.Button;**

**import android.widget.EditText;**

**import android.widget.TextView;**

**import android.widget.Toast;**

**import androidx.annotation.NonNull;**

**import androidx.appcompat.app.AppCompatActivity;**

**import androidx.core.app.ActivityCompat;**

**import androidx.core.content.ContextCompat;**

**public class MainActivity extends AppCompatActivity {**

**private static final int *SMS\_PERMISSION\_CODE* = 1; // Unique code for permission request**

**EditText editTextMobile, editTextUnits;**

**TextView textViewResult;**

**Button buttonCalculate;**

**@Override**

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

**super.onCreate(savedInstanceState);**

**setContentView(R.layout.*activity\_main*);**

**// Binding UI elements**

**editTextMobile = findViewById(R.id.*editTextMobile*);**

**editTextUnits = findViewById(R.id.*editTextUnits*);**

**textViewResult = findViewById(R.id.*textViewResult*);**

**buttonCalculate = findViewById(R.id.*buttonCalculate*);**

**// Button Click Listener**

**buttonCalculate.setOnClickListener(new View.OnClickListener() {**

**@Override**

**public void onClick(View v) {**

**if (ContextCompat.*checkSelfPermission*(MainActivity.this, Manifest.permission.*SEND\_SMS*)**

**!= PackageManager.*PERMISSION\_GRANTED*) {**

**// Request SMS permission if not granted**

**ActivityCompat.*requestPermissions*(MainActivity.this,**

**new String[]{Manifest.permission.*SEND\_SMS*}, *SMS\_PERMISSION\_CODE*);**

**} else {**

**// If permission is already granted, calculate and send SMS**

**calculateAndSendBill();**

**}**

**}**

**});**

**}**

**private void calculateAndSendBill() {**

**String mobile = editTextMobile.getText().toString().trim();**

**String unitsStr = editTextUnits.getText().toString().trim();**

**// Error handling: Check if fields are empty**

**if (mobile.isEmpty() || unitsStr.isEmpty()) {**

**Toast.*makeText*(this, "Please enter all details!", Toast.*LENGTH\_SHORT*).show();**

**return;**

**}**

**int units;**

**try {**

**units = Integer.*parseInt*(unitsStr);**

**} catch (NumberFormatException e) {**

**Toast.*makeText*(this, "Invalid unit input!", Toast.*LENGTH\_SHORT*).show();**

**return;**

**}**

**// Ensure the mobile number is 10 digits**

**if (mobile.length() != 10) {**

**Toast.*makeText*(this, "Enter a valid 10-digit mobile number!", Toast.*LENGTH\_SHORT*).show();**

**return;**

**}**

**double billAmount = calculateBill(units);**

**String message = "Your electricity bill amount is Rs. " + billAmount;**

**textViewResult.setText("Bill Amount: Rs. " + billAmount);**

**// Send SMS**

**try {**

**SmsManager smsManager = SmsManager.*getDefault*();**

**smsManager.sendTextMessage(mobile, null, message, null, null);**

**Toast.*makeText*(this, "SMS sent to " + mobile, Toast.*LENGTH\_SHORT*).show();**

**} catch (Exception e) {**

**Toast.*makeText*(this, "SMS failed to send!", Toast.*LENGTH\_SHORT*).show();**

**e.printStackTrace();**

**}**

**}**

**private double calculateBill(int units) {**

**double billAmount = 0.0;**

**if (units <= 100) {**

**billAmount = units \* 2.50;**

**} else if (units <= 200) {**

**billAmount = 100 \* 2.50 + (units - 100) \* 3.00;**

**} else if (units <= 300) {**

**billAmount = 100 \* 2.50 + 100 \* 3.00 + (units - 200) \* 3.50;**

**} else {**

**billAmount = 100 \* 2.50 + 100 \* 3.00 + 100 \* 3.50 + (units - 300) \* 4.00;**

**}**

**return billAmount;**

**}**

**// Handle permission request results**

**@Override**

**public void onRequestPermissionsResult(int requestCode, @NonNull String[] permissions, @NonNull int[] grantResults) {**

**super.onRequestPermissionsResult(requestCode, permissions, grantResults);**

**if (requestCode == *SMS\_PERMISSION\_CODE*) {**

**if (grantResults.length > 0 && grantResults[0] == PackageManager.*PERMISSION\_GRANTED*) {**

**calculateAndSendBill();**

**} else {**

**Toast.*makeText*(this, "SMS permission denied!", Toast.*LENGTH\_SHORT*).show();**

**}**

**}**

**}**

**}**