Agurchand Manmull Jain College

Meenambakkam Chennai - 61

SHIFT - II

MOBILE APPLICATION DEVELOPMENT LAB

PRACTICAL RECORD

(2022-2023)

Submitted By _____

University Register Number _____

Agurchand Manmull Jain College

Meenambakkam Chennai - 61

SHIFT - II

MOBILE APPLICATION DEVELOPMENT LAB

PRACTICAL RECORD

(2022-2023)

Certificate Bonafide record of the work done by _____

University Register number _____   Course _____

Date: _____

                                                                            Faculty - In - Charge

Station: Meenambakkam – 114

Submitted for the year 2022-2023 Practical Examination held on _____

Examiners

_____   _____

Date: _____   Date: _____

S NO	DATE	TITLE	PAGE NO	SIGN
1.		DEVELOP AN APPLICATION THE FINDS GREATEST AMONG THREE NUMBERS USING GUI COMPONENTS		
2.		DEVELOP AN APPLICATION TO DISPLAY YOUR PERSONAL DETAILS USING GUI COMPONENTS		
3.		DEVELOP AN APPLICATION THAT USES RADIO BUTTON		
4.		DEVELOP AN APPLICATION THAT USES IMAGE BUTTON		
5.		DEVELOP AN APPLICATION THAT USES ALERT DIALOG BOX		
6.		DEVELOP AN APPLICATION THAT USES LAYOUT MANAGERS		
7.		DEVELOP AN APPLICATION THAT USES AUDIO MODE (NORMAL, SILENT, VIBRATE)		
8.		DEVELOP AN APPLICATION THAT USES TO SEND MESSAGES FROM ONE MOBILE TO ANOTHER MOBILE		
9.		DEVELOP AN APPLICATION THAT USES TO SEND EMAIL		
10.		DEVELOP AN APPLICATION FOR MOBILE CALLS		
11.		DEVELOP AN APPLICATION FOR STUDENT MARK SHEET PROCESSING		
12.		DEVELOP AN APPLICATION FOR LOGIN PAGE IN DATABASE		
13.		DEVELOP AN APPLICATION FOR GOOGLE MAP LOCATOR (OPTIONAL)		

EX NO: 1   Greatest among Three numbers using GUI components

JAVA PROGRAM:

```java
package com.example.addition;
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;
public class MainActivity extends AppCompatActivity {
    EditText firstnum,secondnum,thirdnum;
    TextView r;
    Button bt;
    double a,b,c,d;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        firstnum = (EditText) findViewById(R.id.first);
        secondnum=(EditText) findViewById(R.id.second);
        thirdnum = (EditText) findViewById(R.id.third);
        bt=(Button) findViewById(R.id.buttongreat);
        r=(TextView) findViewById(R.id.textView6);
        bt.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                a=Double.parseDouble(firstnum.getText().toString());
                b=Double.parseDouble(secondnum.getText().toString());
                c=Double.parseDouble(thirdnum.getText().toString());

                if( a >= b && a >= c)
                {
                    r.setText("The First Number Is Greater."+a);
                }
                else if (b >= a && b >= c)
                {
                    r.setText("The Second Number Is Greater."+b);
                }
                else
```

```
                r.setText("Third number is greater."+c);
            }
        });
    }
}
```

XML PROGRAM:

```xml
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout 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:layout_width="match_parent"
    android:layout_height="match_parent"
    android:layout_centerHorizontal="true"
    tools:context=".MainActivity">
    <TextView
        android:id="@+id/textview1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignParentTop="true"
        android:layout_centerHorizontal="true"
        android:text="Enter number 1"
        android:textSize="18sp" />
    <EditText
        android:id="@+id/first"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_below="@id/textview1"
        android:layout_alignParentTop="false"
        android:layout_alignParentRight="false"
        android:layout_centerHorizontal="true"
        android:layout_marginTop="32dp"
        android:ems="10"
        android:inputType="number" />
    <TextView
        android:id="@+id/textView2"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_below="@id/first"
        android:layout_centerHorizontal="true"
        android:text="Enter Number 2"
        android:textSize="18sp" />
    <EditText
        android:id="@+id/second"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_below="@id/textView2"
        android:layout_centerHorizontal="true"
```

```xml
    android:ems="10"
    android:inputType="number" />
<TextView
    android:id="@+id/textView3"
    android:layout_width="158dp"
    android:layout_height="wrap_content"
    android:layout_alignParentTop="true"
    android:layout_centerHorizontal="true"
    android:layout_marginTop="182dp"
    android:text="enter number3" />
<EditText
    android:id="@+id/third"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_below="@id/textView2"
    android:layout_centerHorizontal="true"
    android:layout_marginTop="75dp"
    android:ems="10"
    android:inputType="number" />
<Button
    android:id="@+id/buttongreat"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_below="@id/second"
    android:layout_alignParentEnd="true"
    android:layout_centerHorizontal="true"
    android:layout_marginTop="95dp"
    android:layout_marginEnd="123dp"
    android:text="find greatest" />
<TextView
    android:id="@+id/result"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_below="@id/buttongreat"
    android:layout_centerHorizontal="true"
    android:textSize="24sp" />

<TextView
    android:id="@+id/Result"
    android:layout_width="182dp"
    android:layout_height="wrap_content"
    android:layout_alignParentStart="true"
    android:layout_alignParentBottom="true"
```
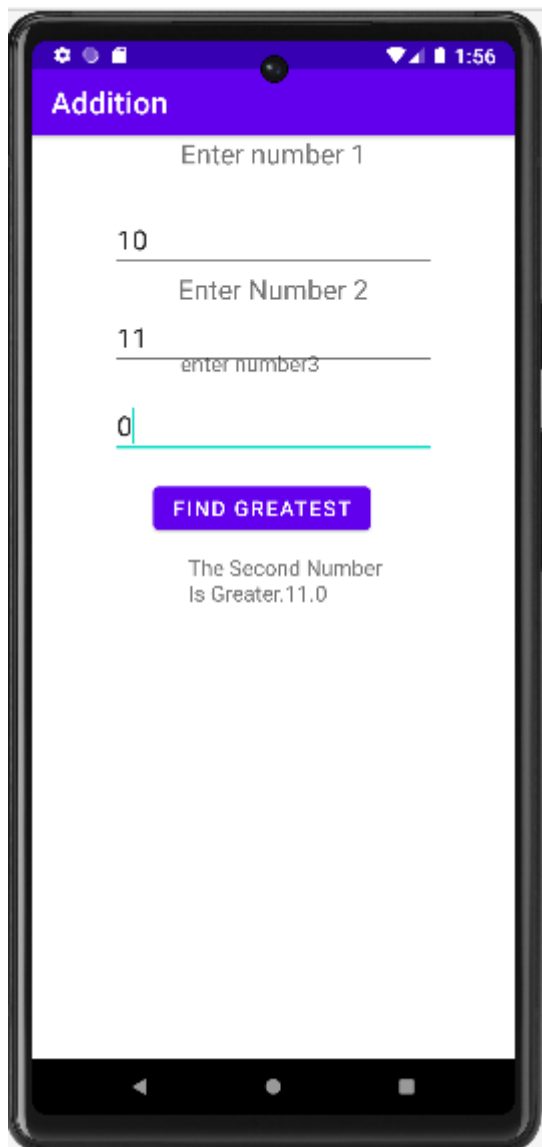
```
            android:layout_centerHorizontal="true"
            android:layout_marginStart="133dp"
            android:layout_marginBottom="384dp" />

</RelativeLayout>
```

OUTPUT:

EX NO: 2   DEVELOP AN APPLICATION TO GET PERSONAL DETAILS

XML PROGRAM:

```xml
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout 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:layout_margin="20dp"
    android:orientation="vertical"
    android:gravity="center"
    tools:context=".MainActivity">
    <TextView
        android:id="@+id/Personal_Details"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="@string/personal_details"
        android:textSize="25sp"
        android:textStyle="bold"
        android:gravity="center"
        android:padding="10dp"
        android:textColor="@color/black"
        />
    <EditText
        android:id="@+id/firstname"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_margin="20dp"
```

```xml
    android:hint="@string/first_name"

    android:layout_marginTop="20dp"

    />

<EditText

    android:id="@+id/lastname"

    android:layout_width="match_parent"

    android:layout_height="wrap_content"

    android:hint="@string/last_name"

    android:layout_margin="20dp"

    />

<EditText

    android:id="@+id/mobile"

    android:layout_width="match_parent"

    android:layout_height="wrap_content"

    android:hint="@string/mobile"

    android:layout_margin="20dp"

    />

<EditText

    android:id="@+id/password"

    android:layout_width="match_parent"

    android:layout_height="wrap_content"

    android:hint="@string/password"

    android:layout_margin="20dp"

    />

<Button

android:layout_width="match_parent"

android:layout_height="wrap_content"

    android:id="@+id/Done"

    android:text="@string/done"
```

```
        android:backgroundTint="@color/black"
        />
    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:orientation="horizontal"
        android:gravity="center">
        <TextView
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:paddingTop="10dp"
            android:paddingStart="5dp"
            android:textColor="@color/purple_700"
            android:text="@string/login"
            />
    </LinearLayout>
</LinearLayout>
```

THEMES.XML:

```xml
<resources xmlns:tools="http://schemas.android.com/tools">
  <style name="Theme.Login"
parent="Theme.MaterialComponents.DayNight.DarkActionBar">
    <item name="colorPrimary">@color/purple_500</item>
    <item name="colorPrimaryVariant">@color/purple_700</item>
    <item name="colorOnPrimary">@color/white</item>
    <item name="colorSecondary">@color/teal_200</item>
    <item name="colorSecondaryVariant">@color/teal_700</item>
    <item name="colorOnSecondary">@color/black</item>
    <item name="android:statusBarColor">?attr/colorPrimaryVariant</item>
  </style>
  <style name="NoTheme.Login"
parent="Theme.MaterialComponents.DayNight.DarkActionBar">
    <item name="colorPrimary">@color/purple_500</item>
    <item name="colorPrimaryVariant">@color/purple_700</item>
    <item name="colorOnPrimary">@color/white</item>
    <item name="colorSecondary">@color/teal_200</item>
    <item name="colorSecondaryVariant">@color/teal_700</item>
    <item name="colorOnSecondary">@color/black</item>
    <item name="android:statusBarColor">?attr/colorPrimaryVariant</item>
  </style>
</resources>
```

MANIFEST.XML:

```xml
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools">
    <application
        android:allowBackup="true"
        android:dataExtractionRules="@xml/data_extraction_rules"
        android:fullBackupContent="@xml/backup_rules"
        android:icon="@mipmap/ic_launcher"
        android:label="@string/Details"
        android:supportsRtl="true"
        android:theme="@style/NoTheme.Login"
        tools:targetApi="31">
        <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>
```

OUTPUT:

EX NO: 3   DEVELOP AN APPLICATIO THAT USES RADIO BUTTON

JAVA PROGRAM:

```java
package com.example.rb;

import android.os.Bundle;

import android.view.View;

import android.widget.Button;

import android.widget.RadioButton;

import android.widget.RadioGroup;

import android.widget.Toast;

import android.*;

import androidx.appcompat.app.AppCompatActivity;

{

public class MainActivity extends AppCompatActivity {

  RadioGroup radioGroup;

  RadioButton radioButton;

  Button button;

  @Override

  protected void onCreate(Bundle savedInstanceState) {

    super.onCreate(savedInstanceState);

    setContentView(R.layout.activity_main);

    addListenerButton();

  }

  private void addListenerButton() {

    radioGroup = findViewById(R.id.radioGender);

    button = findViewById(R.id.btnDisplay);

    button.setOnClickListener(new View.OnClickListener() {

      @Override
```

```java
        public void onClick(View v) {

            int selectedID = radioGroup.getCheckedRadioButtonId();

            radioButton = findViewById(selectedID);

            Toast.makeText(MainActivity.this,
radioButton.getText(),Toast.LENGTH_SHORT).show();

        }

    });

  }

}
```

XML PROGRAM:

```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"
    tools:context=".MainActivity">
    <RadioGroup
        android:id="@+id/radioGender"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_centerInParent="true">
        <RadioButton
            android:id="@+id/radioMale"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="Male"
            android:checked="true" />
        <RadioButton
            android:id="@+id/radioFemale"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="Female" />
    </RadioGroup>
    <Button
        android:layout_below="@id/radioGender"
        android:id="@+id/btnDisplay"
```

```
        android:layout_centerInParent="true"

        android:layout_width="wrap_content"

        android:layout_height="wrap_content"

        android:text="Button" />

</RelativeLayout>
```

MANIFEST.XML:

```xml
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools">
    <application
        android:allowBackup="true"
        android:dataExtractionRules="@xml/data_extraction_rules"
        android:fullBackupContent="@xml/backup_rules"
        android:icon="@mipmap/rbicon"
        android:label="Radio Button"
        android:supportsRtl="true"
        android:theme="@style/Theme.RB"
        >
        <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>
            <meta-data
                android:name="android.app.lib_name"
                android:value="" />
        </activity>
    </application>
</manifest>
```

STRING.XML:

```xml
<resources>
    <string name="app_name">ample</string>
    <string name="radioMale">Male</string>
    <string name="radioFemale">Female</string>
    <string name="btnDisplay">Display</string>
</resources>
```

OUTPUT:

EX NO: 4   DEVELOP AN APPLICATION THAT USES IMAGEBUTTON

JAVA PROGRAM:

```java
package com.example.imagebutton;

import android.os.Bundle;

import android.app.Activity;

import android.view.View;

import android.view.View.OnClickListener;

import android.widget.ImageButton;

import android.widget.Toast;

import com.example.imagebutton.R;

public class MainActivity extends Activity {

    ImageButton imgButton;

    @Override

    protected void onCreate(Bundle savedInstanceState) {

        super.onCreate(savedInstanceState);

        setContentView(R.layout.activity_main);

        imgButton =(ImageButton)findViewById(R.id.imageButton);

        imgButton.setOnClickListener(new View.OnClickListener() {

            @Override

            public void onClick(View v) {

                Toast.makeText(getApplicationContext(),"AGURCHAND MANMULL JAIN COLLEGE",Toast.LENGTH_LONG).show();

            }

        });

    }

}
```

XML PROGRAM:

```xml
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout
    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:layout_width="match_parent"
    android:layout_height="match_parent"
    android:paddingLeft="@dimen/activity_horizontal_margin"
    android:paddingRight="@dimen/activity_horizontal_margin"
    android:paddingTop="@dimen/activity_vertical_margin"
    android:paddingBottom="@dimen/activity_vertical_margin"
    tools:context=".MainActivity">
    <TextView
        android:layout_width="339dp"
        android:layout_height="60dp"
        android:layout_alignEnd="@+id/imageButton"
        android:layout_alignRight="@+id/imageButton"
        android:layout_alignParentTop="true"
        android:layout_marginEnd="-84dp"
        android:layout_marginRight="-84dp"
        android:text="IMAGEBUTTON DEMO"
        android:textSize="30dp"/>
    <ImageButton
        android:id="@+id/imageButton"
        android:layout_width="179dp"
        android:layout_height="162dp"
        android:layout_centerInParent="true"
```
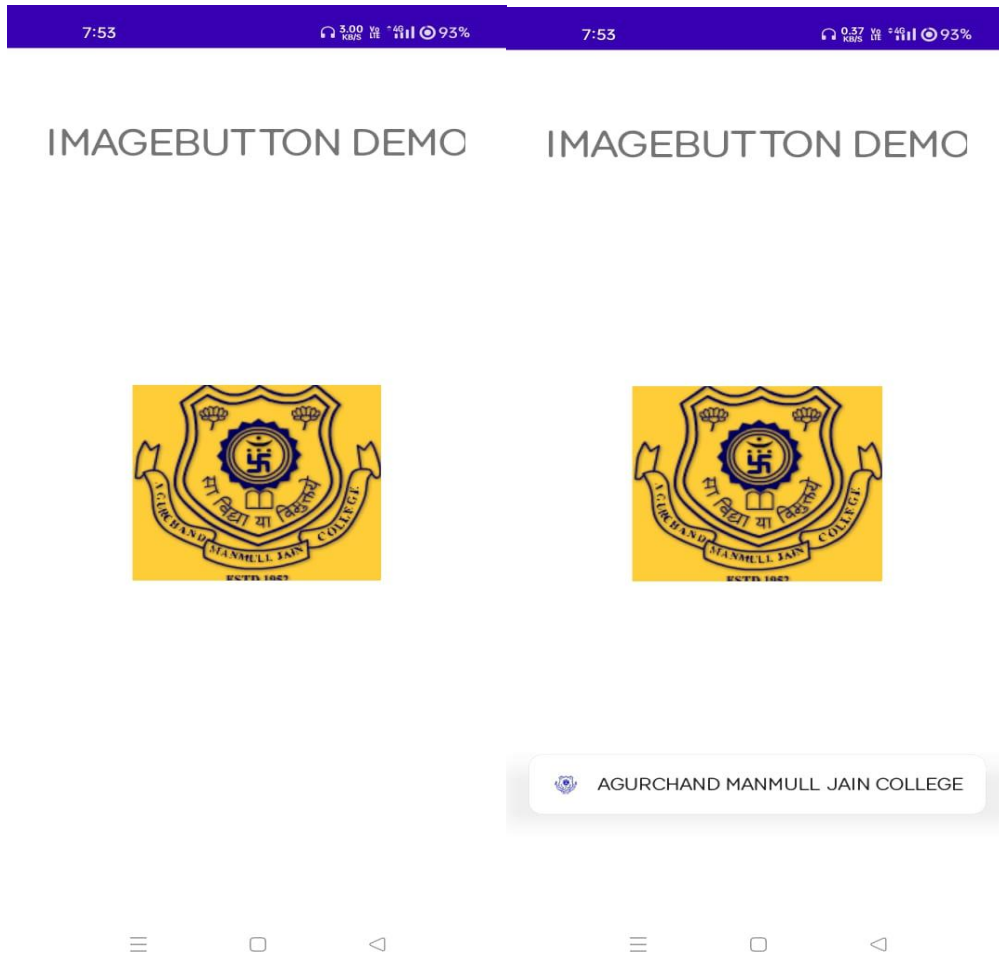
```
            android:src="@drawable/amjain" />

</RelativeLayout>
```

OUTPUT:

EX NO: 5   DEVELOP AN APP THAT USES ALERT DIALOG BOX

JAVA PROGRAM:

```
package com.example.alertdemo;

import androidx.appcompat.app.AppCompatActivity;

import android.app.AlertDialog;

import android.content.DialogInterface;

import android.os.Bundle;

import android.view.View;

import android.widget.Button;

public class MainActivity extends AppCompatActivity {

  Button alert;

  @Override

  protected void onCreate(Bundle savedInstanceState) {

    super.onCreate(savedInstanceState);

    setContentView(R.layout.activity_main);

    alert = (Button)findViewById(R.id.btnalert);

    alert.setOnClickListener(new View.OnClickListener(){

      @Override

      public void onClick(View view)

      {

          AlertDialog alertDialog = new
AlertDialog.Builder(MainActivity.this).create();

        alertDialog.setTitle("Welcome To Demo App");

        alertDialog.setMessage("This is an Alert Dialog");

        alertDialog.setButton(AlertDialog.BUTTON_NEUTRAL, "OK",

            new DialogInterface.OnClickListener(){

              public void onClick(DialogInterface dialog, int which) {
```
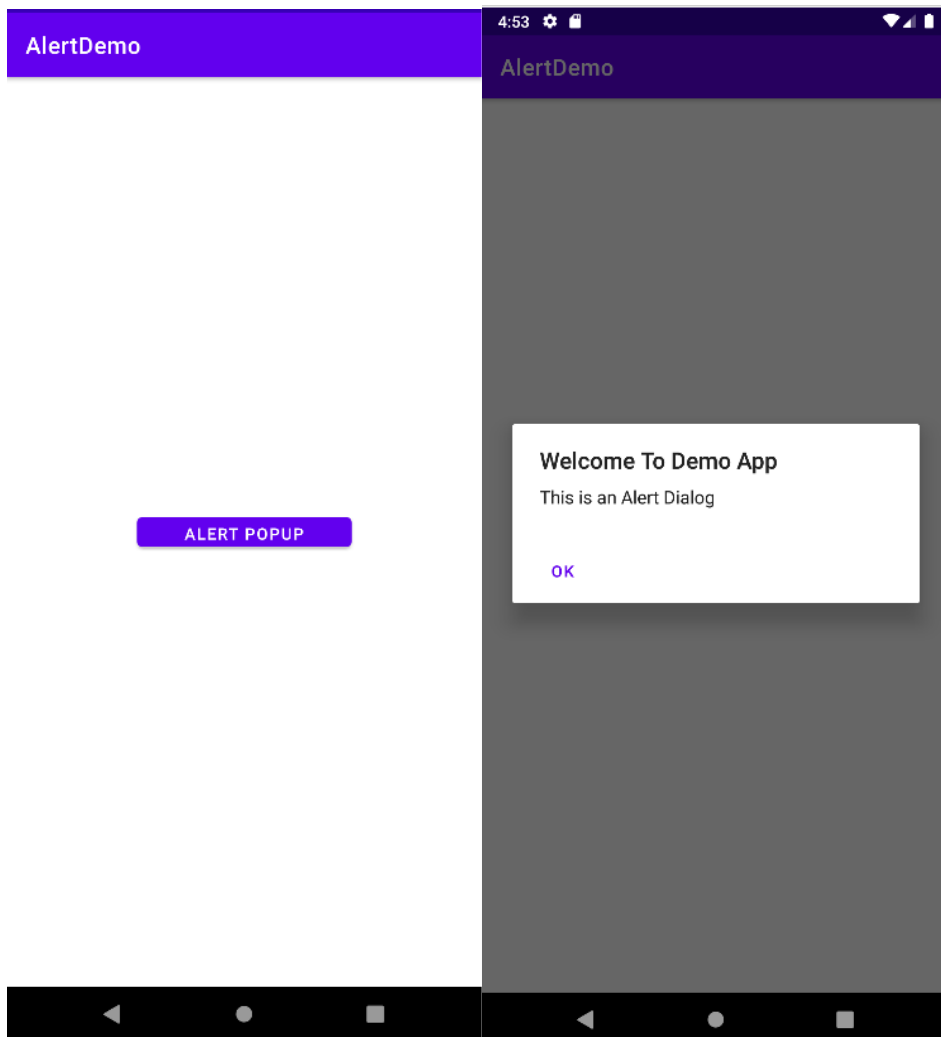
```java
                            dialog.dismiss();
                        }
                    });
                alertDialog.show();
            }
                    }
        );
    }
}
```

XML PROGRAM:

```xml
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
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:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity">
    <Button
        android:id="@+id/btnalert"
        android:layout_width="186dp"
        android:layout_height="37dp"
        android:text="ALERT POPUP"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />
</androidx.constraintlayout.widget.ConstraintLayout>
```

OUTPUT:

EX NO: 6   DEVELOP AN APP THAT USES LAYOUT MANAGERS

JAVA PROGRAM:

package com.example.lm;

import android.os.Bundle;

import android.view.View;

import android.widget.Button;

import android.widget.Toast;

import androidx.appcompat.app.AppCompatActivity;

public class MainActivity extends AppCompatActivity implements View.OnClickListener {

  @Override

  protected void onCreate(Bundle savedInstanceState) {

    super.onCreate(savedInstanceState);

    setContentView(R.layout.*activity_main*);

    Button button1 = findViewById(R.id.*button1*);

    Button button2 = findViewById(R.id.*button2*);

    Button button3 = findViewById(R.id.*button3*);

    button1.setOnClickListener(this);

    button2.setOnClickListener(this);

    button3.setOnClickListener(this);

  }

  @Override

  public void onClick(View v) {

    switch (v.getId()) {

      case R.id.*button1*:

        Toast.*makeText*(this, "RELATIVE LAYOUT",
Toast.*LENGTH_SHORT*).show();

```java
                break;
        case R.id.button2:
                Toast.makeText(this, "LINEAR LAYOUT",
Toast.LENGTH_SHORT).show();
                break;
        case R.id.button3:
                Toast.makeText(this, "GRID LAYOUT",
                Toast.LENGTH_SHORT).show();
                break;
    }
  }
}
```

XML PROGRAM:

```xml
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
    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/linearLayout"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:gravity="center"
    tools:context="com.codinginflow.multipleonclicklistenerexample.MainActivity">
    <Button
        android:id="@+id/button1"
        android:layout_width="306dp"
        android:layout_height="103dp"
        android:gravity="center"
        android:text="RELATIVE LAYOUT"
        tools:ignore="MissingConstraints"
        tools:layout_editor_absoluteX="52dp"
        tools:layout_editor_absoluteY="55dp" />
    <Button
        android:id="@+id/button2"
        android:layout_width="128dp"
        android:layout_height="265dp"
        android:layout_marginStart="44dp"
        android:gravity="center"
        android:text="LINEAR LAYOUT"
        app:layout_constraintBottom_toTopOf="@+id/button3"
```
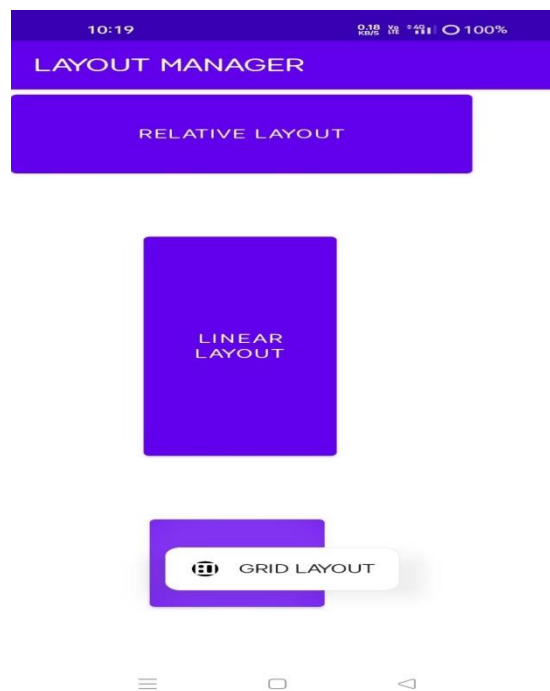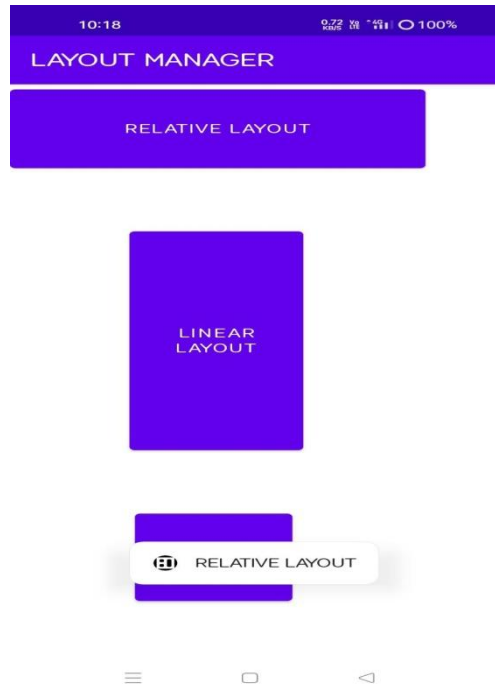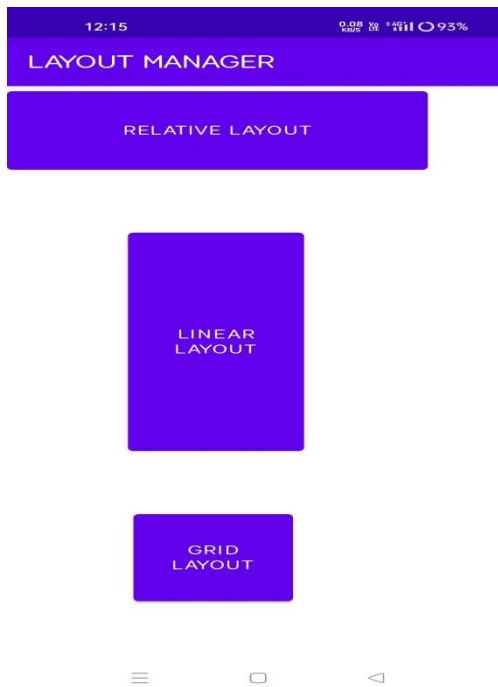
```
        app:layout_constraintStart_toStartOf="@+id/button1"

        app:layout_constraintTop_toBottomOf="@+id/button1" />

    <Button

        android:id="@+id/button3"

        android:layout_width="116dp"

        android:layout_height="113dp"

        android:layout_marginStart="4dp"

        android:text="GRID LAYOUT"

        android:gravity="center"

        app:layout_constraintBottom_toBottomOf="parent"

        app:layout_constraintStart_toStartOf="@+id/button2"

        app:layout_constraintTop_toBottomOf="@+id/button2" />

</androidx.constraintlayout.widget.ConstraintLayout>
```

OUTPUT:

EX NO: 7   AN APP USES AUDIO MODE (NORMAL, SILENT, VIBRATE)

JAVA PROGRAM:

```java
package com.example.audiobutton;
import android.app.Activity;
import android.content.Context;
import android.media.AudioManager;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.Toast;
public class MainActivity extends Activity {
    Button mode,ring,vibrate,silent;
    private AudioManager myAudioManager;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        vibrate=(Button)findViewById(R.id.button3);
        ring=(Button)findViewById(R.id.button2);
        mode=(Button)findViewById(R.id.button);
        silent=(Button)findViewById(R.id.button4);
        myAudioManager =
(AudioManager)getSystemService(Context.AUDIO_SERVICE);
        vibrate.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {

myAudioManager.setRingerMode(AudioManager.RINGER_MODE_VIBRATE);
                Toast.makeText(MainActivity.this,"Now in Vibrate Mode",
                    Toast.LENGTH_LONG).show();
            }
        });
        ring.setOnClickListener(v -> {

myAudioManager.setRingerMode(AudioManager.RINGER_MODE_NORMAL);
            Toast.makeText(MainActivity.this,"Now in Ringing Mode",
                Toast.LENGTH_LONG).show();
        });

        silent.setOnClickListener(v -> {
```

```java
myAudioManager.setRingerMode(AudioManager.RINGER_MODE_SILENT);
        Toast.makeText(MainActivity.this,"Now in silent Mode",
            Toast.LENGTH_LONG).show();
    });
    mode.setOnClickListener(v -> {
        int mod=myAudioManager.getRingerMode();
        if(mod==AudioManager.RINGER_MODE_VIBRATE){
            Toast.makeText(MainActivity.this,"Now in Vibrate Mode",
                Toast.LENGTH_LONG).show();
        } else if(mod==AudioManager.RINGER_MODE_NORMAL){
            Toast.makeText(MainActivity.this,"Now in Ringing Mode",
                Toast.LENGTH_LONG).show();
        } else {
            Toast.makeText(MainActivity.this,"Now in Vibrate Mode",
                Toast.LENGTH_LONG).show();
        }
    });
  }
}
```

XML PROGRAM:

```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"
    tools:context=".MainActivity">
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="@string/android_audio_recording"
        android:id="@+id/textView"
        android:textSize="30dp"
        android:layout_alignParentTop="true"
        android:layout_centerHorizontal="true" />
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Sound Profile"
        android:id="@+id/textView2"
        android:textColor="#ff3eff0f"
        android:textSize="30dp"
        android:layout_below="@+id/textView"
        android:layout_centerHorizontal="true" />
    <ImageView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:id="@+id/imageView"
        android:src="@drawable/volume"
        android:layout_below="@+id/textView2"
        android:layout_alignLeft="@+id/textView2"
        android:layout_alignStart="@+id/textView2"
        android:layout_alignRight="@+id/textView2"
        android:layout_alignEnd="@+id/textView2" />
    <Button
        android:id="@+id/button"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_below="@+id/imageView"
        android:layout_alignParentStart="true"
        android:layout_alignParentLeft="true"
```

```xml
        android:layout_marginStart="15dp"
        android:layout_marginLeft="15dp"
        android:layout_marginTop="60dp"
        android:text="Mode" />
    <Button
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Ring"
        android:id="@+id/button2"
        android:layout_alignTop="@+id/button"
        android:layout_centerHorizontal="true" />
    <Button
        android:id="@+id/button3"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignTop="@+id/button2"
        android:layout_alignEnd="@+id/textView"
        android:layout_alignRight="@+id/textView"
        android:layout_marginTop="0dp"
        android:layout_marginEnd="-28dp"
        android:layout_marginRight="-28dp"
        android:text="vibrate" />
    <Button
        android:id="@+id/button4"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_below="@+id/button2"
        android:layout_alignStart="@+id/button2"
        android:layout_alignLeft="@+id/button2"
        android:layout_marginStart="0dp"
        android:layout_marginLeft="0dp"
        android:layout_marginTop="18dp"
        android:text="Silent" />
</RelativeLayout>
```

MANIFEST.XML:

```xml
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools">
    <application
        android:allowBackup="true"
        android:dataExtractionRules="@xml/data_extraction_rules"
        android:fullBackupContent="@xml/backup_rules"
        android:icon="@mipmap/ab"
        android:label="@string/app_name"
        android:roundIcon="@mipmap/ab"
        android:supportsRtl="true"
        android:theme="@style/Theme.AudioButton"
        tools:targetApi="31">
        <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>
            <meta-data
                android:name="android.app.lib_name"
                android:value="" />
        </activity>
    </application>

</manifest>
```

OUTPUT:

EX NO: 8   DEVELOP AN APP THAT USES TO SEND SMS MESSAGE

JAVA PROGRAM:

```java
package com.example.sms;

import android.net.Uri;

import android.os.Bundle;

import android.app.Activity;

import android.content.Intent;

import android.util.Log;

import android.view.Menu;

import android.view.View;

import android.widget.Button;

import android.widget.Toast;

public class MainActivity extends Activity {

  @Override

  protected void onCreate(Bundle savedInstanceState) {

    super.onCreate(savedInstanceState);

    setContentView(R.layout.activity_main);

    Button startBtn = (Button) findViewById(R.id.btnSendSMS);

    startBtn.setOnClickListener(new View.OnClickListener() {

      public void onClick(View view) {

        sendSMS();

      }

    });

  }

  protected void sendSMS() {

    Log.i("Send SMS", "");

    Intent smsIntent = new Intent(Intent.ACTION_VIEW);
```

```java
    smsIntent.setData(Uri.parse("smsto:"));

    smsIntent.setType("vnd.android-dir/mms-sms");

    smsIntent.putExtra("address"  , new String ("01234"));

    smsIntent.putExtra("sms_body"  , "Test ");

    try {

        startActivity(smsIntent);

        finish();

        Log.i("Finished sending SMS...", "");

    } catch (android.content.ActivityNotFoundException ex) {

        Toast.makeText(MainActivity.this,

            "SMS faild, please try again later.", Toast.LENGTH_SHORT).show();

    }

}

@Override

public boolean onCreateOptionsMenu(Menu menu) {

    // Inflate the menu; this adds items to the action bar if it is present.

    getMenuInflater().inflate(R.menu.main, menu);

    return true;

}
}
```

XML PROGRAM:

```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"
  tools:context="MainActivity">
  <TextView
    android:id="@+id/textView1"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Messagings"
    android:layout_alignParentTop="true"
    android:layout_centerHorizontal="true"
    android:textSize="30dp" />
  <TextView
    android:id="@+id/textView2"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="SMS Demo"
    android:textColor="#006FFF"
    android:textSize="30dp"
    android:layout_below="@+id/textView1"
    android:layout_alignRight="@+id/imageButton"
    android:layout_alignEnd="@+id/imageButton"
    android:layout_centerHorizontal="true"/>
  <ImageButton
    android:id="@+id/imageButton"
```

```xml
        android:layout_width="200dp"

        android:layout_height="200dp"

        android:layout_below="@+id/textView2"

        android:layout_centerHorizontal="true"

        android:src="@drawable/icn" />
    <EditText

        android:layout_width="wrap_content"

        android:layout_height="wrap_content"

        android:id="@+id/editText"

        android:hint="Enter Phone Number"

        android:phoneNumber="true"

        android:textColorHint="@color/abc_primary_text_material_dark"

        android:layout_below="@+id/imageButton"

        android:layout_centerHorizontal="true" />
    <EditText

        android:id="@+id/editText2"

        android:layout_width="wrap_content"

        android:layout_height="wrap_content"

        android:layout_below="@+id/editText"

        android:layout_alignStart="@+id/editText"

        android:layout_alignLeft="@+id/editText"

        android:layout_alignEnd="@+id/imageButton"

        android:layout_alignRight="@+id/imageButton"

        android:layout_marginStart="-15dp"

        android:layout_marginLeft="-15dp"

        android:layout_marginTop="54dp"

        android:layout_marginEnd="-9dp"

        android:layout_marginRight="-9dp"

        android:hint="Enter SMS"
```

```xml
            android:textColorHint="@color/abc_primary_text_material_dark" />
    <Button

            android:id="@+id/btnSendSMS"

            android:layout_width="wrap_content"

            android:layout_height="wrap_content"

            android:layout_below="@+id/editText2"

            android:layout_centerHorizontal="true"

            android:layout_marginTop="145dp"

            android:text="Send Sms" />

</RelativeLayout>
```
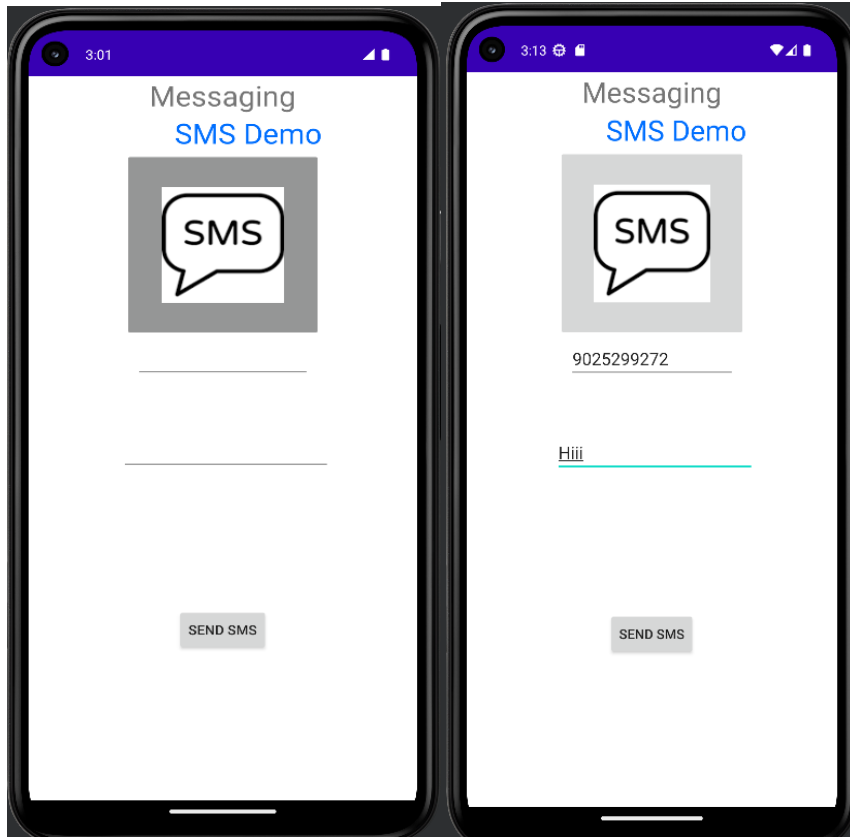
MANIFEST.XML:

```xml
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
   xmlns:tools="http://schemas.android.com/tools"
   package="com.example.tutorialspoint" >
   <uses-permission android:name="android.permission.SEND_SMS" />
   <application
      android:allowBackup="true"
      android:icon="@drawable/msgs"
      android:label="@string/app_name"
      android:theme="@style/CardView.Dark" >
      <activity
         android:name="com.example.sms.MainActivity"
         android:label="@string/app_name"
         tools:ignore="MissingClass"
         android:exported="true">
         <intent-filter>
            <action android:name="android.intent.action.MAIN" />
            <category android:name="android.intent.category.LAUNCHER" />
         </intent-filter>
      </activity>
   </application>
</manifest>
```

OUTPUT:

EX NO: 9   DEVELOP AN APP THAT USES TO SEND EMAIL

JAVA PROGRAM:

```java
package com.example.sendemail;
import android.net.Uri;
import android.os.Bundle;
import android.app.Activity;
import android.content.Intent;
import android.util.Log;
import android.view.Menu;
import android.view.View;
import android.widget.Button;
import android.widget.Toast;
import com.example.sendemail.R;
public class MainActivity extends Activity {
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        Button startBtn = (Button) findViewById(R.id.sendEmail);
        startBtn.setOnClickListener(new View.OnClickListener() {
            public void onClick(View view) {
                sendEmail();
            }
        });
    }
    protected void sendEmail() {
        Log.i("Send email", "");
```

```
    String[] TO = {""};

    String[] CC = {""};

    Intent emailIntent = new Intent(Intent.ACTION_SEND);

    emailIntent.setData(Uri.parse("mailto:"));

    emailIntent.setType("text/plain");

    emailIntent.putExtra(Intent.EXTRA_EMAIL, TO);

    emailIntent.putExtra(Intent.EXTRA_CC, CC);

    emailIntent.putExtra(Intent.EXTRA_SUBJECT, "Your subject");

    emailIntent.putExtra(Intent.EXTRA_TEXT, "Email message goes here");

    try {

        startActivity(Intent.createChooser(emailIntent, "Send mail..."));

        finish();

        Log.i("Finished sending email...", "");

    } catch (android.content.ActivityNotFoundException ex) {

        Toast.makeText(MainActivity.this, "There is no email client installed.",
Toast.LENGTH_SHORT).show();

    }
  }
}
```

XML PROGRAM:

```xml
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
  android:layout_width="fill_parent"
  android:layout_height="fill_parent"
  android:orientation="vertical" >
  <TextView
    android:id="@+id/textView1"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Sending Mail Example"
    android:layout_alignParentTop="true"
    android:layout_centerHorizontal="true"
    android:textSize="30dp" />
  <TextView
    android:id="@+id/textView2"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="AM JAIN COLLEGE"
    android:textColor="#ff87ff09"
    android:textSize="30dp"
    android:layout_above="@+id/imageButton"
    android:layout_alignRight="@+id/imageButton"
    android:layout_alignEnd="@+id/imageButton" />
  <ImageButton
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:id="@+id/imageButton"
    android:layout_centerVertical="true"
```

```xml
        android:layout_centerHorizontal="true" />
    <Button
        android:id="@+id/sendEmail"
        android:layout_width="fill_parent"
        android:layout_height="wrap_content"
        android:text="@string/compose_email"/>
</LinearLayout>
```
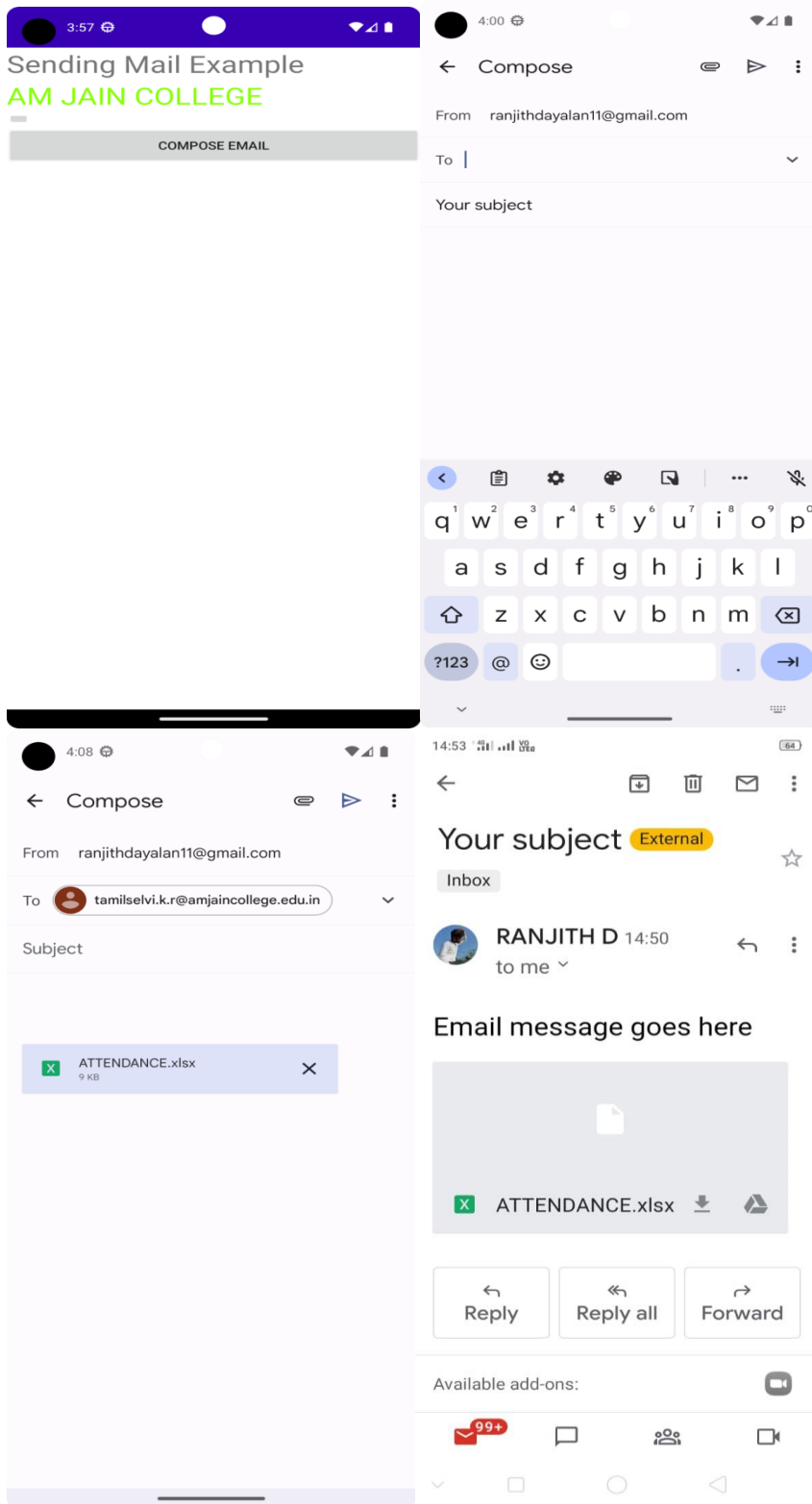
MANIFEST.XML:

```xml
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools">
    <application
        android:allowBackup="true"
        android:dataExtractionRules="@xml/data_extraction_rules"
        android:fullBackupContent="@xml/backup_rules"
        android:icon="@mipmap/email"
        android:label="@string/app_name"
        android:supportsRtl="true"
        android:theme="@style/Theme.Sendemail"
        tools:targetApi="31">
        <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>
            <meta-data
                android:name="android.app.lib_name"
                android:value="" />
        </activity>
    </application>
</manifest>
```

STRING.XML:

```xml
<?xml version="1.0" encoding="utf-8"?>
<resources>
    <string name="app_name">Sendemail</string>
    <string name="compose_email">Compose Email</string>
</resources>
```

OUTPUT:

EX NO: 10   <u>**DEVELOP AN APPLICATION FOR MOBILE CALLS**</u>

JAVA PROGRAM:

```java
package com.example.calls;
import androidx.appcompat.app.AppCompatActivity;
import android.content.Intent;
import android.net.Uri;
import android.os.Bundle;
import android.view.View;
import android.widget.EditText;
import android.widget.ImageButton;
public class MainActivity extends AppCompatActivity {
    private EditText phone;
    private ImageButton call;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        phone = findViewById(R.id.number);
        call = findViewById(R.id.call);
        call.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                String phoneNumber = phone.getText().toString();
                Intent intent = new Intent(Intent.ACTION_CALL);
                intent.setData(Uri.parse("tel:"+phoneNumber));
                startActivity(intent);
            }
```
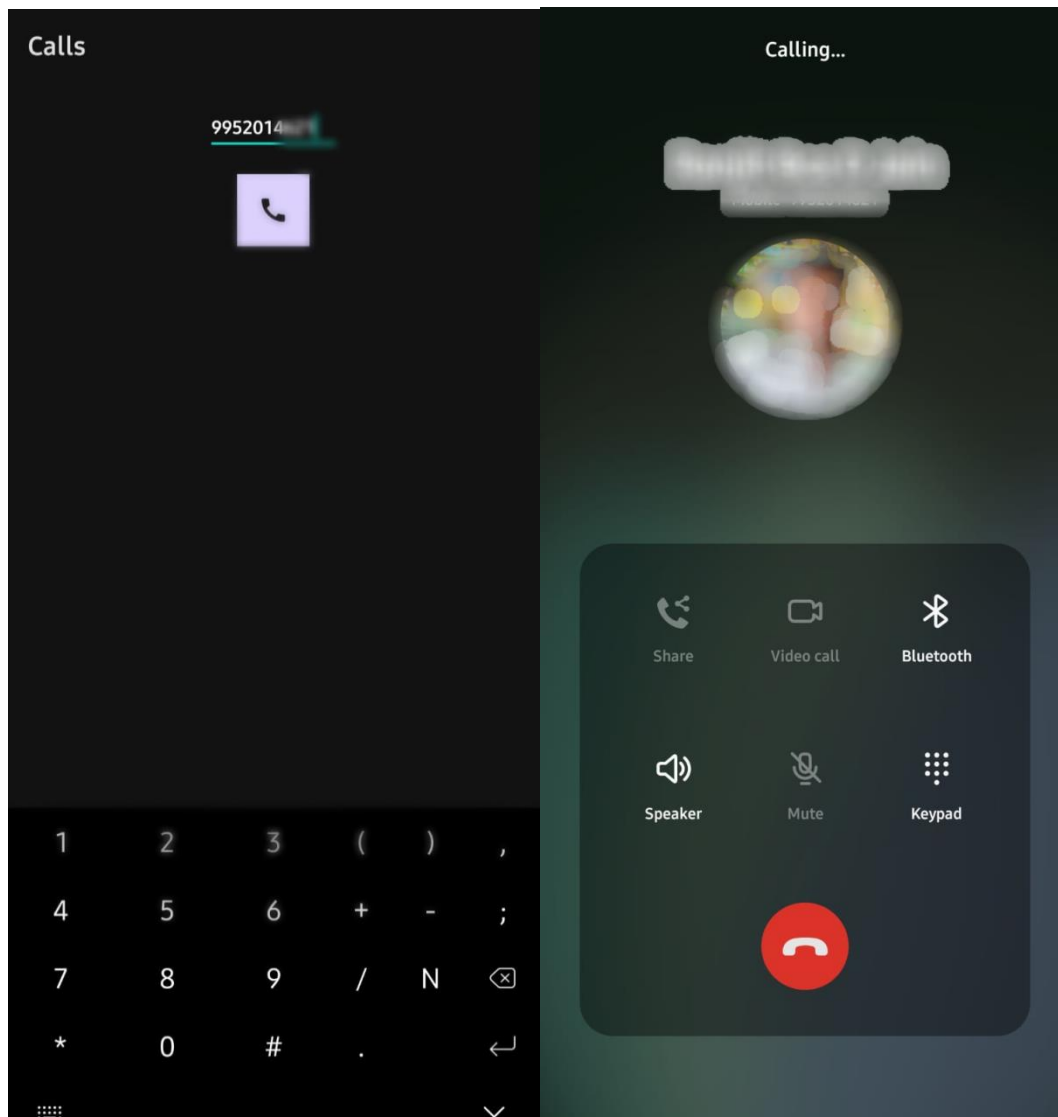
```
        }
      );
    }
  }
```

XML PROGRAM:

```xml
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout 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:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical"
    tools:context=".MainActivity">
    <EditText
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_gravity="center_horizontal"
        android:id="@+id/number"
        android:hint="Phone Number"
        android:inputType="phone"
        android:layout_margin="16dp"/>
    <ImageButton
        android:id="@+id/call"
        android:layout_width="56dp"
        android:layout_height="56dp"
        android:layout_gravity="center_horizontal"
        android:background="#dcd0ff"
        android:src="@drawable/ic_baseline_call_24" />
</LinearLayout>
```

MANIFEST.XML:

```xml
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
  package="com.example.calls">
  <uses-permission android:name="android.permission.CALL_PHONE"/>
<application
    android:allowBackup="true"
    android:dataExtractionRules="@xml/data_extraction_rules"
    android:fullBackupContent="@xml/backup_rules"
    android:icon="@mipmap/ic_launcher"
    android:label="@string/app_name"
    android:supportsRtl="true"
    android:theme="@style/Theme.Calls"
    >
    <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>
      <meta-data
        android:name="android.app.lib_name"
        android:value="" />
    </activity>
  </application>
</manifest>
```

OUTPUT:

EX NO: 11 <u>DEVELOP AN APP FOR STUDENT MARKSHEET PROCESSING</u>

JAVA PROGRAM:

```java
package com.example.studentssm;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;

import android.view.View;

import android.widget.Button;

import android.widget.EditText;

public class MainActivity extends AppCompatActivity {

    EditText ed1,ed2,ed3,ed4,ed5,ed6,ed7;

    Button btn1,btn2;

    @Override

    protected void onCreate(Bundle savedInstanceState) {

        super.onCreate(savedInstanceState);

        setContentView(R.layout.activity_main);

        ed1 = findViewById(R.id.stname);

        ed2 = findViewById(R.id.mark1);

        ed3 = findViewById(R.id.mark2);

        ed4 = findViewById(R.id.mark3);

        ed5 = findViewById(R.id.total);

        ed6 = findViewById(R.id.avg);

        ed7 = findViewById(R.id.grade);

        btn1 = findViewById(R.id.btn1);

        btn2 = findViewById(R.id.btn2);

        btn1.setOnClickListener(new View.OnClickListener() {

            @Override

            public void onClick(View v) {
```

```java
            stmarks();

        }

    });
    btn2.setOnClickListener(new View.OnClickListener() {

        @Override

        public void onClick(View v) {

            clear();

        }

    });

}

public void stmarks()

{

    int m1,m2,m3,tot;

    double avg;

    String grade;

    m1 = Integer.parseInt(ed2.getText().toString());

    m2 = Integer.parseInt(ed3.getText().toString());

    m3 = Integer.parseInt(ed4.getText().toString());

    tot = m1 + m2 + m3;

    ed5.setText(String.valueOf(tot));

    avg = tot/3;

    ed6.setText(String.valueOf(avg));

    if(avg > 75)

    {

        ed7.setText("A");

    }

    else if(avg > 65)

    {

        ed7.setText("B");
```

```java
        }
        else if(avg > 55)
        {
            ed7.setText("C");
        }
        else if(avg > 40)
        {
            ed7.setText("D");
        }
        else
        {
            ed7.setText("Fail");
        }
    }
    public void clear()
    {
        ed1.setText("");
        ed2.setText("");
        ed3.setText("");
        ed4.setText("");
        ed5.setText("");
        ed6.setText("");
        ed7.setText("");
        ed1.requestFocus();
    }
}
```

XML PROGRAM:

```xml
<LinearLayout
    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:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity"
    android:orientation="vertical"
    android:gravity="center">
    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        android:orientation="vertical"
        android:gravity="center">
        <LinearLayout
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:orientation="vertical"
            android:gravity="center">
            <TextView
                android:layout_width="wrap_content"
                android:layout_height="wrap_content"
                android:layout_marginBottom="30dp"
                android:gravity="center"
                android:text="@string/emptitle"
                android:textSize="15sp"
                android:textStyle="bold"
```

```xml
            />

    </LinearLayout>

    <LinearLayout

        android:layout_width="match_parent"

        android:layout_height="wrap_content"

        android:orientation="horizontal"

        android:gravity="center"

        >

        <TextView

            android:layout_width="wrap_content"

            android:layout_height="wrap_content"

            android:layout_marginStart="20sp"

            android:text="@string/stname"

            android:textSize="15sp"

            android:textStyle="italic"

            />

        <EditText

            android:layout_width="match_parent"

            android:layout_height="wrap_content"

            android:id="@+id/stname"

            android:gravity="center"

            />

    </LinearLayout>

    <LinearLayout

        android:layout_width="match_parent"

        android:layout_height="wrap_content"

        android:orientation="horizontal"

        android:gravity="center"

        >
```

```xml
<TextView
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginStart="15sp"
    android:text="@string/marks1"
    android:textSize="15sp"
    android:textStyle="italic"
    />
<EditText
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:id="@+id/mark1"
    android:gravity="center"
    />
</LinearLayout>
<LinearLayout
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:orientation="horizontal"
    android:gravity="center"
    >
<TextView
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginStart="15sp"
    android:text="@string/marks2"
    android:textSize="15sp"
    android:textStyle="italic"
    />
```

```xml
    <EditText
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:id="@+id/mark2"
        android:gravity="center"
        />
</LinearLayout>
<LinearLayout
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:orientation="horizontal"
    android:gravity="center"
    >
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginStart="20sp"
        android:text="@string/marks3"
        android:textSize="15sp"
        android:textStyle="italic"
        />
    <EditText
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:id="@+id/mark3"
        android:gravity="center"
        />
</LinearLayout>
```

```xml
<LinearLayout
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:orientation="horizontal"
    android:gravity="center"
    >
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginStart="20sp"
        android:text="@string/total"
        android:textSize="15sp"
        android:textStyle="italic"
        />
    <EditText
        android:id="@+id/total"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:gravity="center"
        />
</LinearLayout>
<LinearLayout
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:orientation="horizontal"
    android:gravity="center"
    >
    <TextView
        android:layout_width="wrap_content"
```

```xml
        android:layout_height="wrap_content"

        android:layout_marginStart="20sp"

        android:text="@string/avg"

        android:textSize="15sp"

        android:textStyle="italic"

        />

    <EditText

        android:layout_width="match_parent"

        android:layout_height="wrap_content"

        android:id="@+id/avg"

        android:gravity="center"

        />

</LinearLayout>

<LinearLayout

    android:layout_width="match_parent"

    android:layout_height="wrap_content"

    android:orientation="horizontal"

    android:gravity="center"

    >

    <TextView

        android:layout_width="wrap_content"

        android:layout_height="wrap_content"

        android:layout_marginStart="20sp"

        android:text="@string/grade"

        android:textSize="15sp"

        android:textStyle="italic"

        />

    <EditText

        android:id="@+id/grade"
```

```xml
            android:layout_width="match_parent"

            android:layout_height="wrap_content"

            android:gravity="center"/>

    </LinearLayout>

    <LinearLayout

        android:layout_width="match_parent"

        android:layout_height="wrap_content"

        android:orientation="horizontal"

        android:gravity="end"

        />

        <Button

            android:layout_width="wrap_content"

            android:layout_height="wrap_content"

            android:text="@string/btnok"

            android:textColor="#ffffff"

            android:id="@+id/btn1"

            />

        <Button

            android:layout_width="wrap_content"

            android:layout_height="wrap_content"

            android:text="@string/btnclear"

            android:textColor="#ffffff"

            android:id="@+id/btn2"

            />

    </LinearLayout>

  </LinearLayout>

</LinearLayout>
```

STRING.XML:

```xml
<resources>
    <string name="app_name">Student Marks Calculation System</string>
    <string name="emptitle">Student Marks Calculation System</string>
    <string name="stname">Student Name</string>
    <string name="marks1">Marks 1</string>
    <string name="marks2">Marks 2</string>
    <string name="marks3">Marks 3</string>
    <string name="total">Total</string>
    <string name="avg">Average</string>
    <string name="grade">Grade</string>
    <string name="btnok">Ok</string>
    <string name="btnclear">Clear</string>
</resources>
```

OUTPUT:

Student Marks Calculation System

Student Name	Vallavan
Marks 1	92
Marks 2	87
Marks 3	90
Total	269
Average	89.0
Grade	A

OK   CLEAR

EX NO: 12   DEVELOP AN APP FOR LOGIN WITH DATABASE

JAVA PROGRAM:

Create a DatabaseHelper class:

```
package com.androidtutorialshub.loginregister.sql;

import android.content.ContentValues;

import android.content.Context;

import android.database.Cursor;

import android.database.sqlite.SQLiteDatabase;

import android.database.sqlite.SQLiteOpenHelper;

import com.androidtutorialshub.loginregister.model.User;

import java.util.ArrayList;

import java.util.List;

public class DatabaseHelper extends SQLiteOpenHelper {
// Database Version
private static final int DATABASE_VERSION = 1;
// Database Name
private static final String DATABASE_NAME = "UserManager.db";
// User table name
private static final String TABLE_USER = "user";
// User Table Columns names
private static final String COLUMN_USER_ID = "user_id";
private static final String COLUMN_USER_NAME = "user_name";
private static final String COLUMN_USER_EMAIL = "user_email";
private static final String COLUMN_USER_PASSWORD = "user_password";
// create table sql query
private String CREATE_USER_TABLE = "CREATE TABLE " + TABLE_USER +
"("
```

```java
+ COLUMN_USER_ID + " INTEGER PRIMARY KEY

AUTOINCREMENT," + COLUMN_USER_NAME + "

TEXT,"

+ COLUMN_USER_EMAIL + " TEXT," + COLUMN_USER_PASSWORD

+ " TEXT" + ")";

// drop table sql query

private String DROP_USER_TABLE = "DROP TABLE IF EXISTS " +

TABLE_USER;

public DatabaseHelper(Context context) {

super(context, DATABASE_NAME, null, DATABASE_VERSION);

}

@Override

public void onCreate(SQLiteDatabase db) {

db.execSQL(CREATE_USER_TABLE);

}

@Override

public void onUpgrade(SQLiteDatabase db, int oldVersion, int newVersion) {

//Drop User Table if exist

db.execSQL(DROP_USER_TABLE);

// Create tables again

onCreate(db);

}

public void addUser(User user) {

SQLiteDatabase db = this.getWritableDatabase();

ContentValues values = new ContentValues();

values.put(COLUMN_USER_NAME, user.getName());

values.put(COLUMN_USER_EMAIL, user.getEmail());

values.put(COLUMN_USER_PASSWORD, user.getPassword());

// Inserting Row
```

```java
db.insert(TABLE_USER, null, values);

db.close();

}

public List<User> getAllUser() {

// array of columns to

fetch String[]

columns = {

COLUMN_USER_ID,

COLUMN_USER_EMAIL,

COLUMN_USER_NAME,

COLUMN_USER_PASSWOR

D

};

// sorting orders

String sortOrder =

COLUMN_USER_NAME + "

ASC";

List<User> userList = new ArrayList<User>();

SQLiteDatabase db = this.getReadableDatabase();

Cursor cursor = db.query(TABLE_USER, //Table to query

columns, //columns to return

null, //columns for the WHERE clause

null, //The values for the WHERE clause

null, //group the rows

null, //filter by row groups

sortOrder); //The sort order

// Traversing through all rows and adding to list

if (cursor.moveToFirst()) {

do {
```

```java
User user = new User();

user.setId(Integer.parseInt(cursor.getString(cursor.getColumnIndex(COLUMN_USER
_ID))));

user.setName(cursor.getString(cursor.getColumnIndex(COLUMN_USER_NAME)));

user.setEmail(cursor.getString(cursor.getColumnIndex(COLUMN_USER_EMAIL)));

user.setPassword(cursor.getString(cursor.getColumnIndex(COLUMN_USER_PASSW
ORD)));

// Adding user record to list

userList.add(user);

} while (cursor.moveToNext());

}

cursor.close()

; db.close();

// return user list

return userList;

}

public void updateUser(User user) {

SQLiteDatabase db = this.getWritableDatabase();

ContentValues values = new ContentValues();

values.put(COLUMN_USER_NAME, user.getName());

values.put(COLUMN_USER_EMAIL, user.getEmail());

values.put(COLUMN_USER_PASSWORD, user.getPassword());

// updating row

db.update(TABLE_USER, values, COLUMN_USER_ID + " = ?",

new String[]{String.valueOf(user.getId())});

db.close();

}
```

```java
public void deleteUser(User user) {

SQLiteDatabase db =

this.getWritableDatabase();

// delete user record by id

db.delete(TABLE_USER, COLUMN_USER_ID + " = ?",

db.close();

}

public boolean checkUser(String email) {

// array of columns to

fetch String[]

columns = {

COLUMN_USER_ID

};

SQLiteDatabase db = this.getReadableDatabase();

// selection criteria

String selection = COLUMN_USER_EMAIL + " = ?";

// selection argument

String[] selectionArgs = {email};

// query user table with condition

Cursor cursor = db.query(TABLE_USER, //Table to query

columns, //columns to return

selection, //columns for the WHERE clause

selectionArgs, //The values for the WHERE clause

null, //group the rows

null, //filter by row groups

null); //The sort order

int cursorCount = cursor.getCount();

cursor.close();

db.close();
```

```java
if (cursorCount > 0)
{ return true;
}
return false;
}
public boolean checkUser(String email, String password) {
// array of columns to
fetch String[]
columns = {
COLUMN_USER_ID
};
SQLiteDatabase db = this.getReadableDatabase();
// selection criteria
String selection = COLUMN_USER_EMAIL + " = ?" + " AND " +
COLUMN_USER_PASSWORD + " = ?";
// selection arguments
String[] selectionArgs = {email, password};
// query user table with conditions
Cursor cursor = db.query(TABLE_USER, //Table to query
columns, //columns to return
selection, //columns for the WHERE clause
selectionArgs, //The values for the WHERE clause
null, //group the rows
null, //filter by row groups
null); //The sort order
int cursorCount = cursor.getCount();
cursor.close();
db.close();
if (cursorCount > 0)
```

```
        { return true;
        }
    return false;
    }
    }
```

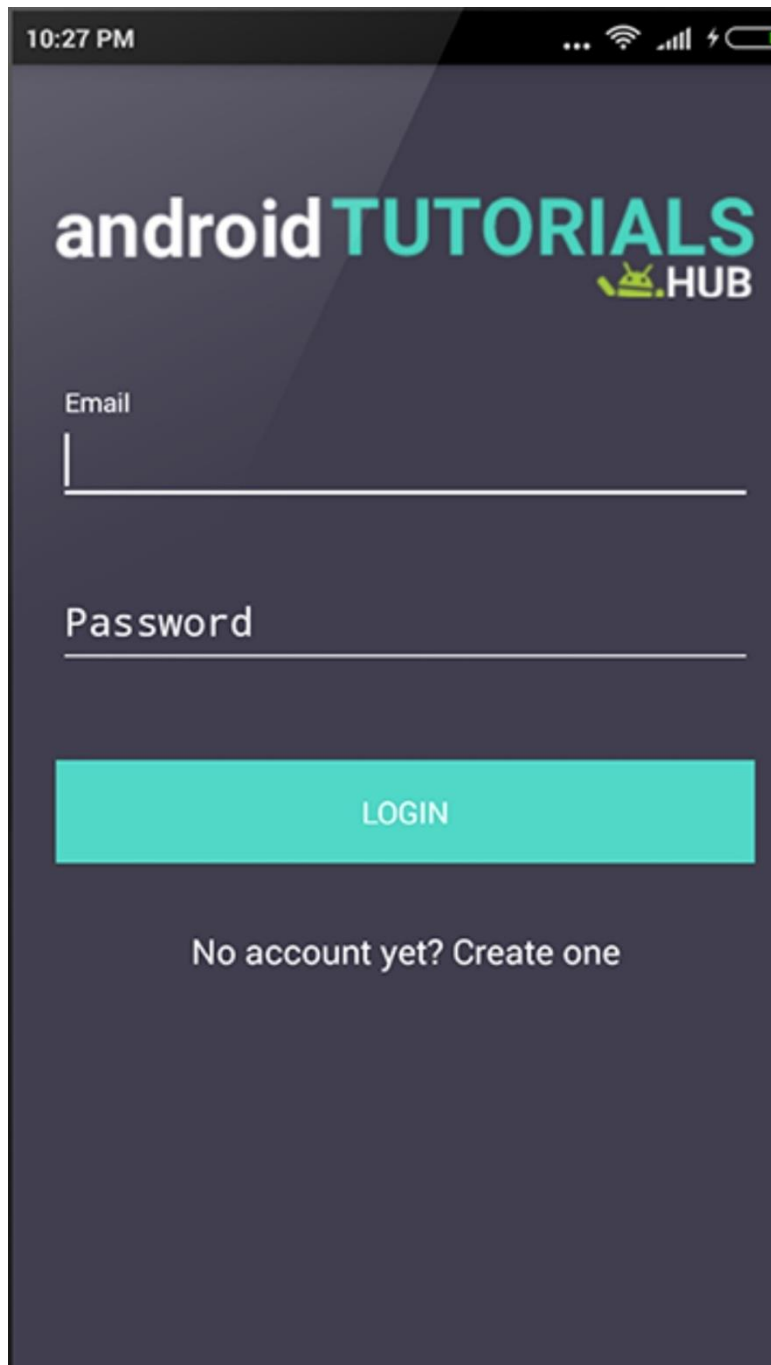**XML PROGRAM:**

```xml
<?xml version="1.0" encoding="utf-8"?>
<android.support.v4.widget.NestedScrollView
xmlns:android="http://schemas.android.com/apk/res/android"
xmlns:tools="http://schemas.android.com/tools"
android:id="@+id/nestedScrollView"
android:layout_width="match_parent"
android:layout_height="match_parent"
android:background="@color/colorBackground"
android:paddingBottom="20dp"
android:paddingLeft="20dp"
android:paddingRight="20dp"
android:paddingTop="20dp"
tools:context=".activities.LoginActivity">
<android.support.v7.widget.LinearLayoutCompat
android:layout_width="match_parent"
android:layout_height="match_parent"
android:orientation="vertical">
<android.support.v7.widget.AppCompatImageView
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_gravity="center_horizontal"
android:layout_marginTop="40dp"
android:src="@drawable/logo" />
<android.support.design.widget.TextInputLayout
android:id="@+id/textInputLayoutEmail"
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:layout_marginTop="40dp">
```

```xml
<android.support.design.widget.TextInputEditText
    android:id="@+id/textInputEditTextEmail"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:hint="@string/hint_email"
    android:inputType="text"
    android:maxLines="1"
    android:textColor="@android:color/white" />
</android.support.design.widget.TextInputLayout>
<android.support.design.widget.TextInputLayout
    android:id="@+id/textInputLayoutPassword"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_marginTop="20dp">
<android.support.design.widget.TextInputEditText
    android:id="@+id/textInputEditTextPassword"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:hint="@string/hint_password"
    android:inputType="textPassword"
    android:maxLines="1"
    android:textColor="@android:color/white" />
</android.support.design.widget.TextInputLayout>
<android.support.v7.widget.AppCompatButton
    android:id="@+id/appCompatButtonLogin"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_marginTop="40dp"
    android:background="@color/colorTextHint"
```

```xml
android:text="@string/text_login" />
<android.support.v7.widget.AppCompatTextView
android:id="@+id/textViewLinkRegister"
android:layout_width="fill_parent"
android:layout_height="wrap_content"
android:layout_marginTop="30dp"
android:gravity="center"
android:text="@string/text_not_member"
android:textSize="16dp" />
</android.support.v7.widget.LinearLayoutCompat>
</android.support.v4.widget.NestedScrollView>
```

OUTPUT:

EX NO: 13   **DEVELOP AN APP FOR GOOGLE MAP LOCATOR**

JAVA PROGRAM:

```java
package com.example.map;

import android.os.Bundle;

import androidx.fragment.app.FragmentActivity;

import com.google.android.gms.maps.CameraUpdateFactory;

import com.google.android.gms.maps.GoogleMap;

import com.google.android.gms.maps.OnMapReadyCallback;

import com.google.android.gms.maps.SupportMapFragment;

import com.google.android.gms.maps.model.LatLng;

import com.google.android.gms.maps.model.MarkerOptions;

public class MapsActivity extends FragmentActivity implements
OnMapReadyCallback {

    private GoogleMap mMap;

    @Override

    protected void onCreate(Bundle savedInstanceState) {

        super.onCreate(savedInstanceState);

        setContentView(R.layout.activity_maps);

        // Obtain the SupportMapFragment and get notified when the map is ready to be
used.

        SupportMapFragment mapFragment = (SupportMapFragment)
getSupportFragmentManager()

                .findFragmentById(R.id.map);

        mapFragment.getMapAsync(this);

    }

    /**

     * Manipulates the map once available.

     * This callback is triggered when the map is ready to be used.
```

```java
 * This is where we can add markers or lines, add listeners or move the camera.

 * In this case, we just add a marker near Sydney, Australia.

 * If Google Play services are not installed on the device.

 * This method will only be triggered once the user has installed

Google Play services and returned to the app.

 */

@Override

public void onMapReady(GoogleMap googleMap) {

    mMap = googleMap;

    // Add a marker in Sydney and move the camera

    LatLng TutorialsPoint = new LatLng(21, 57);

    mMap.addMarker(new

        MarkerOptions().position(TutorialsPoint).title("III BCA D"));

    mMap.moveCamera(CameraUpdateFactory.newLatLng(TutorialsPoint));

  }

}
```

XML PROGRAM:

```xml
<androidx.fragment.app.FragmentContainerView
xmlns:tools="http://schemas.android.com/tools"

    xmlns:android="http://schemas.android.com/apk/res/android"
    android:id="@+id/map"
    android:name="com.google.android.gms.maps.SupportMapFragment"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context="com.example.map.MapsActivity" />
```

MANIFEST.XML:

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

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

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

  package="com.example.tutorialspoint7.myapplication">

  <!--

    The ACCESS_COARSE/FINE_LOCATION permissions are not required to use

    Google Maps Android API v2, but you must specify either coarse or fine

    location permissions for the 'MyLocation' functionality.

  -->

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

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

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

  <application

    android:allowBackup="true"

    android:icon="@mipmap/ic_launcher"

    android:label="@string/app_name"

    android:supportsRtl="true"

    android:theme="@style/CardView.Light">

    <!--

      The API key for Google Maps-based APIs is defined as a string resource.

      (See the file "res/values/google_maps_api.xml").

      Note that the API key is linked to the encryption key used to sign the APK.

      You need a different API key for each encryption key, including the release key

      that is used to sign the APK for publishing.

      You can define the keys for the debug and

```
        release targets in src/debug/ and src/release/.

    -->

    <meta-data
        android:name="com.google.android.geo.API_KEY"
        android:value="AIzaSyAXhBdyKxUo_cb-EkSgWJQTdqR0QjLcqes" />

    <activity
        android:name="com.example.map.MapsActivity"
        android:label="@string/title_activity_maps"
        tools:ignore="MissingClass"
        android:exported="true">
        <intent-filter>
            <action android:name="android.intent.action.MAIN" />
            <category android:name="android.intent.category.LAUNCHER" />
        </intent-filter>
    </activity>
  </application>
</manifest>
```

OUTPUT: