1. Alert Dialog Box

Source code:

```
package com.example.dialogbox;

import androidx.appcompat.app.AlertDialog;
import androidx.appcompat.app.AppCompatActivity;



import android.content.DialogInterface;

import android.os.Bundle;
import android.view.View;
import android.widget.Button;



public class MainActivity extends AppCompatActivity {
    Button a;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        a=(Button) findViewById(R.id.button);

        a.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                AlertDialog.Builder builder=new AlertDialog.Builder(MainActivity.this);
                builder.setMessage("i am test message");
                builder.setTitle("Warning");

                builder.setCancelable(false);
                builder.setPositiveButton("Ok", (DialogInterface.OnClickListener) (dialog, which) -> {

                    dialog.cancel();
                });
                AlertDialog alertDialog = builder.create();

                builder.show();
```

```
        }


    });


  }
}
```

XML File

```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/button"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Don't click me"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

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

2. audio mode (NORMAL, SILENT, VIBRATE)

Source code:

package com.example.ringingmode;

import androidx.appcompat.app.AppCompatActivity;

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 AppCompatActivity {

    Button a;

    Button b;

    Button c;

    @Override
    protected void onCreate(Bundle savedInstanceState) {

        super.onCreate(savedInstanceState);

        setContentView(R.layout.activity_main);
```

```java
a=(Button) findViewById(R.id.button);

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

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


AudioManager audio;

audio=(AudioManager) getSystemService(Context.AUDIO_SERVICE) ;



a.setOnClickListener(new View.OnClickListener() {

    @Override

    public void onClick(View view) {

        audio.setRingerMode(AudioManager.RINGER_MODE_SILENT);

        Toast.makeText(MainActivity.this,"The Silent mode is activated",

            Toast.LENGTH_LONG).show();

    }

});

b.setOnClickListener((new View.OnClickListener() {

    @Override

    public void onClick(View view) {

        audio.setRingerMode(AudioManager.RINGER_MODE_NORMAL);

        Toast.makeText(MainActivity.this,"The Normal mode is activated",

            Toast.LENGTH_LONG).show();

    }

}));

c.setOnClickListener(new View.OnClickListener() {
```

```java
        @Override

        public void onClick(View view) {

            audio.setRingerMode(AudioManager.RINGER_MODE_VIBRATE);

            Toast.makeText(MainActivity.this,"The Vibrate mode is activated",

                Toast.LENGTH_LONG).show();

        }

    });

  }

}
```

XML File

```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">

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Welcome "
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.452"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.08" />

    <Button
        android:id="@+id/button"
        android:layout_width="wrap_content"
        android:layout_height="100dp"
        android:text="Slient"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.05"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.484" />

    <Button
        android:id="@+id/button2"
        android:layout_width="wrap_content"
        android:layout_height="100dp"
        android:text="Normal"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
```

```xml
        app:layout_constraintHorizontal_bias="0.422"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.484" />

    <Button
        android:id="@+id/button3"
        android:layout_width="wrap_content"
        android:layout_height="100dp"
        android:layout_marginEnd="36dp"
        android:text="Vibrate"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.918"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.484" />

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

1.Radio button

Source code:

```
package com.example.radio;

import androidx.appcompat.app.AppCompatActivity;

import android.graphics.Color;

import android.os.Bundle;

import android.widget.ImageView;

import android.widget.RadioButton;

import android.widget.RadioGroup;

import android.widget.TextView;

public class MainActivity extends AppCompatActivity {

    RadioGroup g;

    ImageView ir;

    RadioButton b;

    TextView ui;

    @Override

    protected void onCreate(Bundle savedInstanceState) {

        super.onCreate(savedInstanceState);

        setContentView(R.layout.activity_main);

        g=(RadioGroup) findViewById(R.id.radiog);


        ui=(TextView) findViewById(R.id.id);


        g.setOnCheckedChangeListener(new RadioGroup.OnCheckedChangeListener() {

            @Override
```

```java
public void onCheckedChanged(RadioGroup radioGroup, int i) {

    b=(RadioButton) findViewById(i);

    Integer y=g.indexOfChild(b);


    if (y==0)

    {

        ui.setBackgroundResource(R.color.Red);

    }

    else if (y==1)

    {

        ui.setBackgroundResource(R.color.Yellow);

    }

    else

    {

        ui.setBackgroundResource(R.color.Green);

    }


    }

});
  }
}
```

XML File

```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">


    <TextView

        android:id="@+id/id"

        android:layout_width="189dp"

        android:layout_height="162dp"


        app:layout_constraintBottom_toBottomOf="parent"

        app:layout_constraintEnd_toEndOf="parent"

        app:layout_constraintHorizontal_bias="0.513"

        app:layout_constraintStart_toStartOf="parent"

        app:layout_constraintTop_toTopOf="parent"

        app:layout_constraintVertical_bias="0.11" />


    <RadioGroup

        android:layout_width="194dp"

        android:layout_height="158dp"

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

```xml
    tools:layout_editor_absoluteY="301dp"

    app:layout_constraintBottom_toBottomOf="parent"

    app:layout_constraintEnd_toEndOf="parent"

    app:layout_constraintStart_toStartOf="parent"

    app:layout_constraintTop_toTopOf="parent">


    <RadioButton

        android:id="@+id/radioButton4"

        android:layout_width="match_parent"

        android:layout_height="wrap_content"

        android:text="Red"

        app:layout_constraintBottom_toBottomOf="parent"

        app:layout_constraintEnd_toEndOf="parent"

        app:layout_constraintStart_toStartOf="parent"

        app:layout_constraintTop_toTopOf="parent"/>


    <RadioButton

        android:id="@+id/radioButton2"

        android:layout_width="match_parent"

        android:layout_height="wrap_content"

        android:text="Yellow"

        app:layout_constraintBottom_toBottomOf="parent"

        app:layout_constraintEnd_toEndOf="parent"

        app:layout_constraintStart_toStartOf="parent"

        app:layout_constraintTop_toTopOf="parent"/>
```

```xml
    <RadioButton

        android:id="@+id/radioButton"

        android:layout_width="match_parent"

        android:layout_height="wrap_content"

        android:text="Green"

        app:layout_constraintBottom_toBottomOf="parent"

        app:layout_constraintEnd_toEndOf="parent"

        app:layout_constraintStart_toStartOf="parent"

        app:layout_constraintTop_toTopOf="parent"/>

    </RadioGroup>


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

2. To send messages from one mobile to another mobile

Source :

```java
package com.example.mobilesms;

import androidx.annotation.NonNull;

import androidx.appcompat.app.AppCompatActivity;

import androidx.core.app.ActivityCompat;

import androidx.core.content.ContextCompat;


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.Toast;


public class MainActivity extends AppCompatActivity {

    EditText a,b;

    Button b1;

    @Override

    protected void onCreate(Bundle savedInstanceState) {
```

```java
super.onCreate(savedInstanceState);

setContentView(R.layout.activity_main);

a=(EditText) findViewById(R.id.in1);

b=(EditText) findViewById(R.id.in2);

b1=(Button) findViewById(R.id.b1);

b1.setOnClickListener(new View.OnClickListener() {

    @Override

    public void onClick(View view) {

        if (ContextCompat.checkSelfPermission(MainActivity.this, Manifest.permission.SEND_SMS)==
PackageManager.PERMISSION_GRANTED)

        {

caller();

        }

        else

        {

            ActivityCompat.requestPermissions(MainActivity.this,new
String[]{Manifest.permission.SEND_SMS},100);

        }

    }

});

}

public void caller()

{

    String number=a.getText().toString();

    String data=b.getText().toString();

    SmsManager obj = SmsManager.getDefault();
```

```java
            obj.sendTextMessage(number,null,data,null,null);

            Toast.makeText(MainActivity.this,"Successfully sented the message",Toast.LENGTH_SHORT).show();


    }


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

        super.onRequestPermissionsResult(requestCode, permissions, grantResults);

        if (requestCode==100 && grantResults.length>0 &&
grantResults[0]==PackageManager.PERMISSION_GRANTED)

        {

            caller();

        }

        else

        {

            Toast.makeText(MainActivity.this,"Please try again later",Toast.LENGTH_SHORT).show();

        }
    }
}
```

XML File:

```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">


    <EditText

        android:id="@+id/in2"

        android:layout_width="wrap_content"

        android:layout_height="wrap_content"

        android:ems="10"

        android:inputType="textMultiLine"

        android:hint="Message"

        app:layout_constraintBottom_toBottomOf="parent"

        app:layout_constraintEnd_toEndOf="parent"

        android:maxHeight="100dp"

        app:layout_constraintHorizontal_bias="0.432"

        app:layout_constraintStart_toStartOf="parent"

        app:layout_constraintTop_toTopOf="parent"

        app:layout_constraintVertical_bias="0.262" />


    <Button
```

```xml
    android:id="@+id/b1"

    android:layout_width="wrap_content"

    android:layout_height="wrap_content"

    android:text="Button"

    app:layout_constraintBottom_toBottomOf="parent"

    app:layout_constraintEnd_toEndOf="parent"

    app:layout_constraintHorizontal_bias="0.498"

    app:layout_constraintStart_toStartOf="parent"

    app:layout_constraintTop_toTopOf="parent"

    app:layout_constraintVertical_bias="0.426" />

<EditText

    android:id="@+id/in1"

    android:layout_width="wrap_content"

    android:layout_height="wrap_content"

    android:ems="10"

    android:inputType="phone"

    android:hint="Mobile Number"

    app:layout_constraintBottom_toBottomOf="parent"

    app:layout_constraintEnd_toEndOf="parent"

    app:layout_constraintHorizontal_bias="0.432"

    app:layout_constraintStart_toStartOf="parent"

    app:layout_constraintTop_toTopOf="parent"

    app:layout_constraintVertical_bias="0.096" />


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

Manifest file:

```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.mobilesms">

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



    <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:roundIcon="@mipmap/ic_launcher_round"

        android:supportsRtl="true"

        android:theme="@style/Theme.MobileSms"

        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" />
```

```xml
                </intent-filter>

            </activity>

        </application>


</manifest>
```

3.Google map locator

Source:

package com.example.googlemap;

import androidx.fragment.app.FragmentActivity;

import android.os.Bundle;

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;

import com.example.googlemap.databinding.ActivityMapsBinding;

public class MapsActivity extends FragmentActivity implements OnMapReadyCallback {

    private GoogleMap mMap;

    private ActivityMapsBinding binding;

    @Override
    protected void onCreate(Bundle savedInstanceState) {

        super.onCreate(savedInstanceState);

```java
        binding = ActivityMapsBinding.inflate(getLayoutInflater());

        setContentView(binding.getRoot());


        // 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.

     * 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 is not installed on the device, the user will be prompted to install

     * it inside the SupportMapFragment. 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 sydney = new LatLng(12.883697769876708, 80.08216642475381);

        mMap.addMarker(new MarkerOptions().position(sydney).title("Marker in Sydney"));
```

```
        mMap.moveCamera(CameraUpdateFactory.newLatLng(sydney));

    }

}
```

XML file

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

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

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

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

    android:id="@+id/map"

    android:name="com.google.android.gms.maps.SupportMapFragment"

    android:layout_width="match_parent"

    android:layout_height="match_parent"

    tools:context=".MapsActivity" />
```

1.ImageButton

Source File:

```
package com.example.imagebutton;


import androidx.appcompat.app.AppCompatActivity;


import android.os.Bundle;

import android.view.View;

import android.widget.Button;

import android.widget.ImageButton;

import android.widget.TextView;


public class MainActivity extends AppCompatActivity {

    TextView a;


    ImageButton b;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        a=(TextView) findViewById(R.id.t);
        b= (ImageButton) findViewById(R.id.imageButton);
```

```java
b.setOnClickListener(new View.OnClickListener() {

    @Override

    public void onClick(View view) {

        Integer data=Integer.parseInt(a.getText().toString());

        data+=1;

        a.setText(data.toString());

    }

});


    }
}
```

XML File:

```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">


    <TextView

        android:layout_width="wrap_content"

        android:layout_height="wrap_content"

        android:text="0"

        android:id="@+id/t"

        app:layout_constraintBottom_toBottomOf="parent"

        app:layout_constraintEnd_toEndOf="parent"

        app:layout_constraintHorizontal_bias="0.476"

        app:layout_constraintStart_toStartOf="parent"

        app:layout_constraintTop_toTopOf="parent"

        app:layout_constraintVertical_bias="0.155" />


    <ImageButton

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

```xml
        android:layout_width="94dp"

        android:layout_height="71dp"

        app:layout_constraintBottom_toBottomOf="parent"

        app:layout_constraintEnd_toEndOf="parent"

        app:layout_constraintHorizontal_bias="0.501"

        app:layout_constraintStart_toStartOf="parent"

        app:layout_constraintTop_toTopOf="parent"

        app:layout_constraintVertical_bias="0.4"

        app:srcCompat="@android:drawable/ic_menu_add" />


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

2. Mobile calls

Manifest File:

```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.call">
    <uses-permission android:name="android.permission.CALL_PHONE"></uses-permission>

    <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:roundIcon="@mipmap/ic_launcher_round"
        android:supportsRtl="true"
        android:theme="@style/Theme.Call"
        tools:targetApi="31">
        <activity
            android:name=".MainActivity"
            android:exported="true">
            <intent-filter>
```

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

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

            </intent-filter>

        </activity>

    </application>


</manifest>
```

XML File:

```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/button"

        android:layout_width="wrap_content"

        android:layout_height="wrap_content"

        android:text="Button"
```

```xml
        app:layout_constraintStart_toStartOf="parent"

        app:layout_constraintEnd_toEndOf="parent"

        app:layout_constraintBottom_toBottomOf="parent"

        app:layout_constraintTop_toTopOf="parent"

        tools:layout_editor_absoluteX="147dp" />


    <EditText

        android:id="@+id/editText"

        android:layout_width="wrap_content"

        android:layout_height="wrap_content"

        android:ems="10"

        android:inputType="textPersonName"

        android:text="Name"


        app:layout_constraintBottom_toBottomOf="parent"

        app:layout_constraintEnd_toEndOf="parent"

        app:layout_constraintHorizontal_bias="0.422"

        app:layout_constraintStart_toStartOf="parent"

        app:layout_constraintTop_toTopOf="parent"

        app:layout_constraintVertical_bias="0.316" />


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

Source File:

```java
package com.example.call;


import androidx.appcompat.app.AppCompatActivity;


import android.content.Intent;

import android.net.Uri;

import android.os.Bundle;

import android.view.View;

import android.widget.Button;

import android.widget.EditText;


public class MainActivity extends AppCompatActivity {

    EditText a;

    Button b;

    @Override

    protected void onCreate(Bundle savedInstanceState) {

        super.onCreate(savedInstanceState);

        setContentView(R.layout.activity_main);

        a=(EditText) findViewById(R.id.editText);

        b=(Button) findViewById(R.id.button);

        b.setOnClickListener(new View.OnClickListener() {

            @Override

            public void onClick(View view) {
```

```java
            try {

                String phone_number = a.getText().toString();


                Intent phone_intent = new Intent(Intent.ACTION_CALL);



                phone_intent.setData(Uri.parse("tel:" + phone_number));



                startActivity(phone_intent);
            }
            catch(Exception e)
            {
                a.setText(e.toString());
            }
        }
    });
}
}
```

3. send email

XML File:

```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">

    <EditText

        android:id="@+id/t1"

        android:layout_width="wrap_content"

        android:layout_height="wrap_content"

        android:ems="10"

        android:inputType="textPersonName"

        android:hint="TO"

        app:layout_constraintBottom_toBottomOf="parent"

        app:layout_constraintEnd_toEndOf="parent"


        app:layout_constraintHorizontal_bias="0.407"
```

```xml
        app:layout_constraintStart_toStartOf="parent"

        app:layout_constraintTop_toTopOf="parent"

        app:layout_constraintVertical_bias="0.212" />


    <EditText

        android:id="@+id/t2"

        android:layout_width="wrap_content"

        android:layout_height="wrap_content"

        android:ems="10"

        android:inputType="textPersonName"

        android:hint="Subject"

        app:layout_constraintBottom_toBottomOf="parent"

        app:layout_constraintEnd_toEndOf="parent"


        app:layout_constraintHorizontal_bias="0.363"

        app:layout_constraintStart_toStartOf="parent"

        app:layout_constraintTop_toTopOf="parent"

        app:layout_constraintVertical_bias="0.31" />


    <EditText

        android:id="@+id/t3"

        android:layout_width="wrap_content"

        android:layout_height="wrap_content"

        android:ems="10"
```

```xml
        android:inputType="textPersonName"

        android:hint="body"

        app:layout_constraintBottom_toBottomOf="parent"

        app:layout_constraintEnd_toEndOf="parent"


        app:layout_constraintHorizontal_bias="0.363"

        app:layout_constraintStart_toStartOf="parent"

        app:layout_constraintTop_toTopOf="parent"

        app:layout_constraintVertical_bias="0.403" />


    <Button

        android:id="@+id/button"

        android:layout_width="wrap_content"

        android:layout_height="wrap_content"

        android:text="Button"


        app:layout_constraintBottom_toBottomOf="parent"

        app:layout_constraintEnd_toEndOf="parent"


        app:layout_constraintStart_toStartOf="parent"

        app:layout_constraintTop_toTopOf="parent"

        tools:layout_editor_absoluteY="362dp" />


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

Source File:

```java
package com.example.email;


import androidx.appcompat.app.AppCompatActivity;


import android.content.Intent;

import android.os.Bundle;

import android.view.View;

import android.widget.Button;

import android.widget.EditText;


public class MainActivity extends AppCompatActivity {

    EditText a1,a2,a3;

    Button b;



    @Override

    protected void onCreate(Bundle savedInstanceState) {

        super.onCreate(savedInstanceState);

        setContentView(R.layout.activity_main);

        a1=(EditText) findViewById(R.id.t1);

        a2=(EditText) findViewById(R.id.t2);

        a3=(EditText) findViewById(R.id.t3);

        b=(Button) findViewById(R.id.button);
```

```java
b.setOnClickListener(new View.OnClickListener() {

    @Override

    public void onClick(View view) {



        String emailsend = a1.getText().toString();

        String emailsubject = a2.getText().toString();

        String emailbody = a3.getText().toString();



        Intent intent = new Intent(Intent.ACTION_SEND);



        intent.putExtra(Intent.EXTRA_EMAIL, new String[]{emailsend});

        intent.putExtra(Intent.EXTRA_SUBJECT, emailsubject);

        intent.putExtra(Intent.EXTRA_TEXT, emailbody);

        intent.setType("message/rfc822");



        startActivity(Intent.createChooser(intent, "Choose Mail App :"));
    }
});


    }
}
```

4. Student Mark sheet processing

XML File:

```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">


    <TextView

        android:id="@+id/textView6"

        android:layout_width="79dp"

        android:layout_height="27dp"

        android:text="Total"

        android:textSize="18dp"


        app:layout_constraintBottom_toBottomOf="parent"

        app:layout_constraintEnd_toEndOf="parent"

        app:layout_constraintHorizontal_bias="0.048"

        app:layout_constraintStart_toStartOf="parent"

        app:layout_constraintTop_toTopOf="parent"

        app:layout_constraintVertical_bias="0.563" />
```

```xml
<TextView

    android:id="@+id/textView7"

    android:layout_width="79dp"

    android:layout_height="27dp"

    android:text="Average"

    android:textSize="18dp"


    app:layout_constraintBottom_toBottomOf="parent"

    app:layout_constraintEnd_toEndOf="parent"

    app:layout_constraintHorizontal_bias="0.048"

    app:layout_constraintStart_toStartOf="parent"

    app:layout_constraintTop_toTopOf="parent"

    app:layout_constraintVertical_bias="0.646" />


<TextView

    android:id="@+id/a8"

    android:layout_width="79dp"

    android:layout_height="27dp"

    android:text="Result"

    android:textSize="18dp"


    app:layout_constraintBottom_toBottomOf="parent"

    app:layout_constraintEnd_toEndOf="parent"
```

```
    app:layout_constraintHorizontal_bias="0.048"

    app:layout_constraintStart_toStartOf="parent"

    app:layout_constraintTop_toTopOf="parent"

    app:layout_constraintVertical_bias="0.715" />


<TextView

    android:layout_width="97dp"

    android:layout_height="25dp"

    android:text="MarkSheet"

    app:layout_constraintBottom_toBottomOf="parent"

    app:layout_constraintEnd_toEndOf="parent"

    android:textSize="20dp"

    app:layout_constraintHorizontal_bias="0.458"

    app:layout_constraintStart_toStartOf="parent"

    app:layout_constraintTop_toTopOf="parent"

    app:layout_constraintVertical_bias="0.042" />


<TextView

    android:id="@+id/textView"

    android:layout_width="79dp"

    android:layout_height="27dp"

    android:text="Tamil"

    android:textSize="18dp"
```

```xml
    app:layout_constraintBottom_toBottomOf="parent"

    app:layout_constraintEnd_toEndOf="parent"

    app:layout_constraintHorizontal_bias="0.048"

    app:layout_constraintStart_toStartOf="parent"

    app:layout_constraintTop_toTopOf="parent"

    app:layout_constraintVertical_bias="0.178" />


<TextView

    android:id="@+id/textView2"

    android:layout_width="79dp"

    android:layout_height="27dp"

    android:text="English"

    android:textSize="18dp"


    app:layout_constraintBottom_toBottomOf="parent"

    app:layout_constraintEnd_toEndOf="parent"

    app:layout_constraintHorizontal_bias="0.048"

    app:layout_constraintStart_toStartOf="parent"

    app:layout_constraintTop_toTopOf="parent"

    app:layout_constraintVertical_bias="0.258" />


<TextView

    android:id="@+id/textView3"

    android:layout_width="79dp"
```

```xml
        android:layout_height="27dp"

        android:text="Maths"

        android:textSize="18dp"


        app:layout_constraintBottom_toBottomOf="parent"

        app:layout_constraintEnd_toEndOf="parent"

        app:layout_constraintHorizontal_bias="0.048"

        app:layout_constraintStart_toStartOf="parent"

        app:layout_constraintTop_toTopOf="parent"

        app:layout_constraintVertical_bias="0.332" />


    <TextView

        android:id="@+id/textView4"

        android:layout_width="79dp"

        android:layout_height="27dp"

        android:text="Science"

        android:textSize="18dp"


        app:layout_constraintBottom_toBottomOf="parent"

        app:layout_constraintEnd_toEndOf="parent"

        app:layout_constraintHorizontal_bias="0.048"

        app:layout_constraintStart_toStartOf="parent"

        app:layout_constraintTop_toTopOf="parent"

        app:layout_constraintVertical_bias="0.42" />
```

```xml
<TextView

    android:id="@+id/textView5"

    android:layout_width="79dp"

    android:layout_height="27dp"

    android:text="Social"

    android:textSize="18dp"


    app:layout_constraintBottom_toBottomOf="parent"

    app:layout_constraintEnd_toEndOf="parent"

    app:layout_constraintHorizontal_bias="0.048"

    app:layout_constraintStart_toStartOf="parent"

    app:layout_constraintTop_toTopOf="parent" />


<Button

    android:id="@+id/button"

    android:layout_width="wrap_content"

    android:layout_height="wrap_content"

    android:text="Button"

    app:layout_constraintBottom_toBottomOf="parent"

    app:layout_constraintEnd_toEndOf="parent"


    app:layout_constraintHorizontal_bias="0.498"

    app:layout_constraintStart_toStartOf="parent"
```

```xml
        app:layout_constraintTop_toTopOf="parent"

        app:layout_constraintVertical_bias="0.837" />


    <EditText

        android:id="@+id/t1"

        android:layout_width="wrap_content"

        android:layout_height="wrap_content"

        android:ems="10"

        android:inputType="number"


        app:layout_constraintBottom_toBottomOf="parent"

        app:layout_constraintEnd_toEndOf="parent"


        app:layout_constraintHorizontal_bias="0.572"

        app:layout_constraintStart_toStartOf="parent"

        app:layout_constraintTop_toTopOf="parent"

        app:layout_constraintVertical_bias="0.155" />


    <EditText

        android:id="@+id/t2"

        android:layout_width="wrap_content"

        android:layout_height="wrap_content"

        android:ems="10"
```

```xml
        android:inputType="number"

        app:layout_constraintBottom_toBottomOf="parent"

        app:layout_constraintEnd_toEndOf="parent"


        app:layout_constraintHorizontal_bias="0.606"

        app:layout_constraintStart_toStartOf="parent"

        app:layout_constraintTop_toTopOf="parent"

        app:layout_constraintVertical_bias="0.252" />


    <EditText

        android:id="@+id/t3"

        android:layout_width="wrap_content"

        android:layout_height="wrap_content"

        android:ems="10"

        android:inputType="number"

        app:layout_constraintBottom_toBottomOf="parent"

        app:layout_constraintEnd_toEndOf="parent"


        app:layout_constraintHorizontal_bias="0.606"

        app:layout_constraintStart_toStartOf="parent"

        app:layout_constraintTop_toTopOf="parent"

        app:layout_constraintVertical_bias="0.317" />


    <EditText
```

```xml
        android:id="@+id/t4"

        android:layout_width="wrap_content"

        android:layout_height="wrap_content"

        android:ems="10"

        android:inputType="number"

        app:layout_constraintBottom_toBottomOf="parent"

        app:layout_constraintEnd_toEndOf="parent"


        app:layout_constraintHorizontal_bias="0.606"

        app:layout_constraintStart_toStartOf="parent"

        app:layout_constraintTop_toTopOf="parent"

        app:layout_constraintVertical_bias="0.405" />


    <EditText

        android:id="@+id/t5"

        android:layout_width="wrap_content"

        android:layout_height="wrap_content"

        android:ems="10"

        android:inputType="number"

        app:layout_constraintBottom_toBottomOf="parent"

        app:layout_constraintEnd_toEndOf="parent"


        app:layout_constraintHorizontal_bias="0.646"

        app:layout_constraintStart_toStartOf="parent"
```

```xml
        app:layout_constraintTop_toTopOf="parent"

        app:layout_constraintVertical_bias="0.486" />


    <EditText

        android:id="@+id/t6"

        android:layout_width="wrap_content"

        android:layout_height="wrap_content"

        android:ems="10"

        android:inputType="number"

        app:layout_constraintBottom_toBottomOf="parent"

        app:layout_constraintEnd_toEndOf="parent"


        app:layout_constraintHorizontal_bias="0.606"

        app:layout_constraintStart_toStartOf="parent"

        app:layout_constraintTop_toTopOf="parent"

        app:layout_constraintVertical_bias="0.552" />


    <EditText

        android:id="@+id/t7"

        android:layout_width="wrap_content"

        android:layout_height="wrap_content"

        android:ems="10"

        android:inputType="number"

        app:layout_constraintBottom_toBottomOf="parent"
```

```xml
        app:layout_constraintEnd_toEndOf="parent"


        app:layout_constraintHorizontal_bias="0.572"

        app:layout_constraintStart_toStartOf="parent"

        app:layout_constraintTop_toTopOf="parent"

        app:layout_constraintVertical_bias="0.637" />


    <EditText

        android:id="@+id/t8"

        android:layout_width="wrap_content"

        android:layout_height="wrap_content"

        android:ems="10"

        android:inputType="textPersonName"


        app:layout_constraintBottom_toBottomOf="parent"

        app:layout_constraintEnd_toEndOf="parent"



        app:layout_constraintHorizontal_bias="0.572"

        app:layout_constraintStart_toStartOf="parent"

        app:layout_constraintTop_toTopOf="parent"

        app:layout_constraintVertical_bias="0.708" />


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

Source File:

```
package com.example.marksheet;


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 a1,a2,a3,a4,a5,a6,a7,a8;

    Button b;


    @Override

    protected void onCreate(Bundle savedInstanceState) {

        super.onCreate(savedInstanceState);

        setContentView(R.layout.activity_main);

        a1=(EditText) findViewById(R.id.t1);

        a2=(EditText) findViewById(R.id.t2);

        a3=(EditText) findViewById(R.id.t3);

        a4=(EditText) findViewById(R.id.t4);

        a5=(EditText) findViewById(R.id.t5);

        a6=(EditText) findViewById(R.id.t6);
```

```java
        a7=(EditText) findViewById(R.id.t7);

        a8=(EditText) findViewById(R.id.t8);

        b=(Button) findViewById(R.id.button);

        b.setOnClickListener(new View.OnClickListener() {

            @Override

            public void onClick(View view) {

                int c1=Integer.parseInt(a1.getText().toString());

                int c2=Integer.parseInt(a2.getText().toString());

                int c3=Integer.parseInt(a3.getText().toString());

                int c4=Integer.parseInt(a4.getText().toString());

                int c5=Integer.parseInt(a5.getText().toString());


                Integer total=c1+c2+c3+c4+c5;

                Integer avg=total/5;

                a6.setText(total.toString());

                a7.setText(avg.toString());

                a8.setText(c1>40 && c2>40 &&c3>40 &&c4>40 &&c5>40 ?"pass":"Fail");

            }

        });


    }

}
```