Mobile Application Development DA-1

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L23+L24

1)Simple Calculator

activity_main.xml

```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">

    <ImageView
        android:id="@+id/imageView3"
        android:layout_width="150dp"
        android:layout_height="100dp"
        android:layout_gravity="center"
        android:layout_marginTop="50dp"
        app:srcCompat="@drawable/calculator" />

    <TextView
        android:id="@+id/textView3"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_gravity="center"
        android:layout_marginTop="20dp"
        android:text="@string/calculator"
        android:textAllCaps="true"
        android:textSize="20sp"
```

```xml
        android:textStyle="bold" />

    <EditText
        android:id="@+id/et1"
        android:layout_width="232dp"
        android:layout_height="66dp"
        android:layout_marginStart="80dp"
        android:layout_marginTop="30dp"
        android:ems="10"
        android:hint="@string/enter_the_no_1"
        android:inputType="text"
        android:textStyle="bold" />

    <EditText
        android:id="@+id/et2"
        android:layout_width="237dp"
        android:layout_height="59dp"
        android:layout_marginStart="80dp"
        android:layout_marginTop="30dp"
        android:ems="10"
        android:hint="@string/enter_the_no_2"
        android:inputType="text"
        android:textStyle="bold" />

    <Button
        android:id="@+id/btadd"
        android:layout_width="200dp"
        android:layout_height="wrap_content"
        android:layout_marginStart="100dp"
        android:layout_marginTop="10dp"
        android:text="@string/add" />

    <Button
        android:id="@+id/btsub"
        android:layout_width="200dp"
        android:layout_height="wrap_content"
        android:layout_marginStart="100dp"
```

```xml
        android:layout_marginTop="5dp"
        android:text="@string/substract" />

    <Button
        android:id="@+id/btmul"
        android:layout_width="200dp"
        android:layout_height="wrap_content"
        android:layout_marginStart="100dp"
        android:layout_marginTop="5dp"
        android:text="@string/multiply" />

    <Button
        android:id="@+id/btdiv"
        android:layout_width="200dp"
        android:layout_height="wrap_content"
        android:layout_marginStart="100dp"
        android:layout_marginTop="5dp"
        android:text="@string/division" />

    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:orientation="horizontal">

        <TextView
            android:id="@+id/textView4"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_marginStart="50dp"
            android:layout_marginTop="23dp"
            android:text="@string/result"
            android:textSize="25sp"
            android:textStyle="bold" />

        <TextView
            android:id="@+id/tvans"
            android:layout_width="wrap_content"
```

```xml
            android:layout_height="wrap_content"
            android:layout_marginStart="40dp"
            android:layout_marginTop="20dp"
            android:hint="@string/answer"
            android:textSize="25sp"
            android:textStyle="bold" />
    </LinearLayout>

</LinearLayout>
```

MainActivity.java

```java
package com.example.myfirstapplication;

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 et1,et2;
    TextView tvans;
    Button btadd,btsub,btmul,btdiv;


    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);

        et1=findViewById(R.id.et1);
```

```java
et2=findViewById(R.id.et2);
tvans=findViewById(R.id.tvans);
btadd=findViewById(R.id.btadd);
btsub=findViewById(R.id.btsub);
btmul=findViewById(R.id.btmul);
btdiv=findViewById(R.id.btdiv);

btadd.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        int val1,val2,ans;
        val1=Integer.parseInt(et1.getText().toString());
        val2=Integer.parseInt(et2.getText().toString());
        ans=val1+val2;
        tvans.setText(String.valueOf(ans));
    }
});

btsub.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        int val1,val2,ans;
        val1=Integer.parseInt(et1.getText().toString());
        val2=Integer.parseInt(et2.getText().toString());
        ans=val1-val2;
        tvans.setText(String.valueOf(ans));
    }
});

btmul.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        int val1,val2,ans;
        val1=Integer.parseInt(et1.getText().toString());
        val2=Integer.parseInt(et2.getText().toString());
        ans=val1*val2;
        tvans.setText(String.valueOf(ans));
```
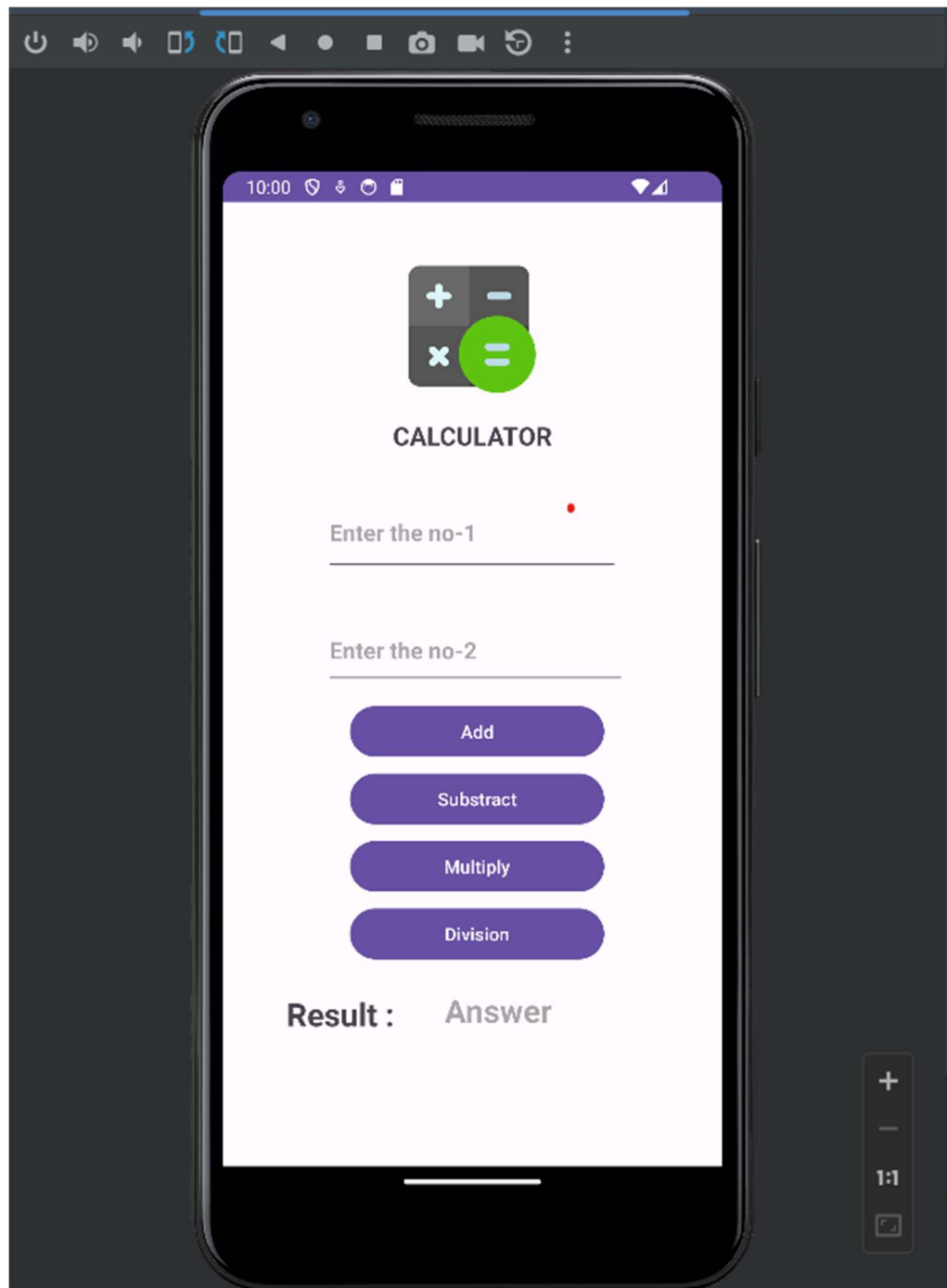
```java
        }
    });

    btdiv.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {
            int val1,val2,ans;
            val1=Integer.parseInt(et1.getText().toString());
            val2=Integer.parseInt(et2.getText().toString());
            if(val2==0) {
                tvans.setText("Division by zero is not possible");
                return;
            }
            ans=val1/val2;
            tvans.setText(String.valueOf(ans));
        }
    });

    }
}
```
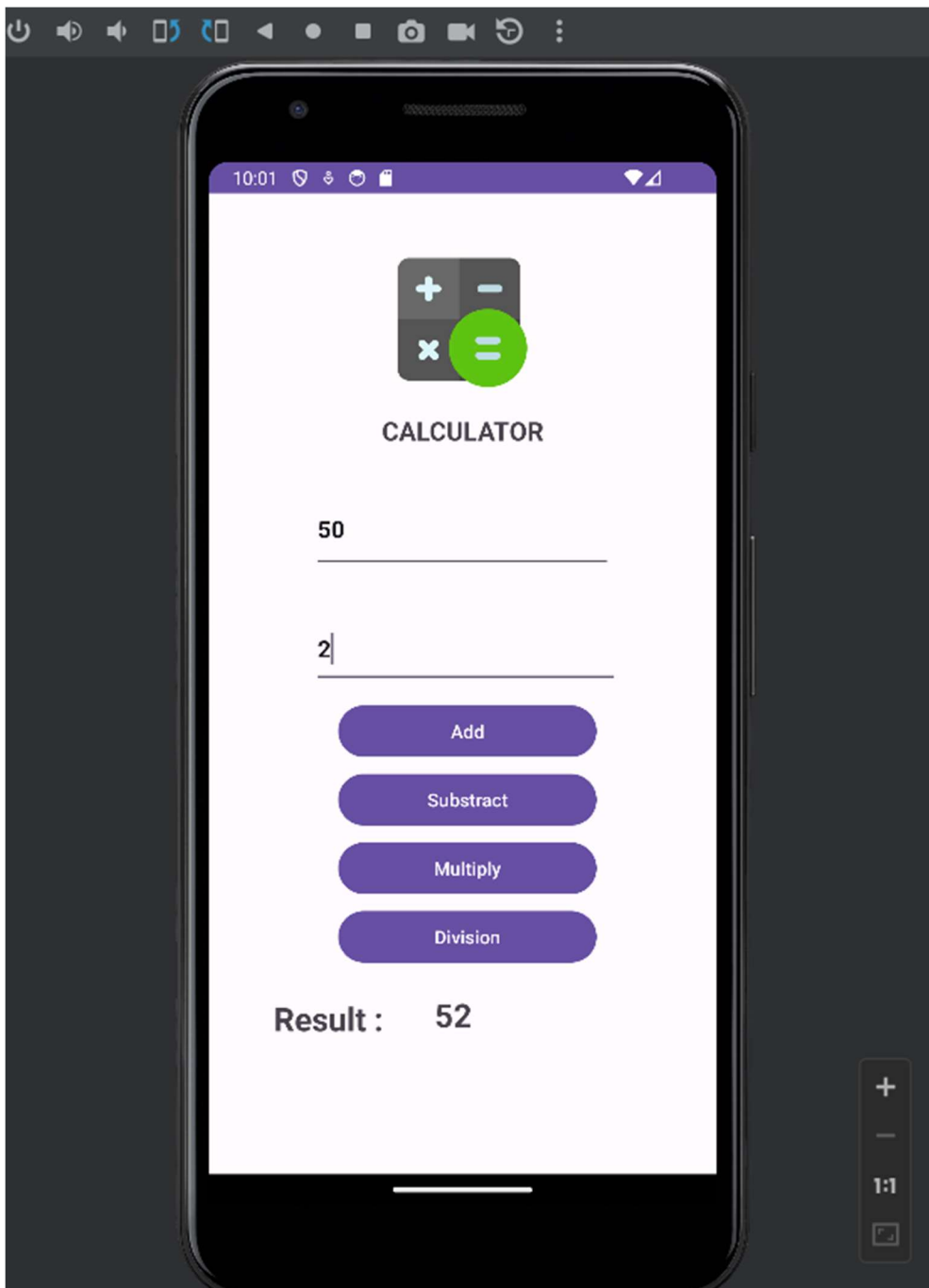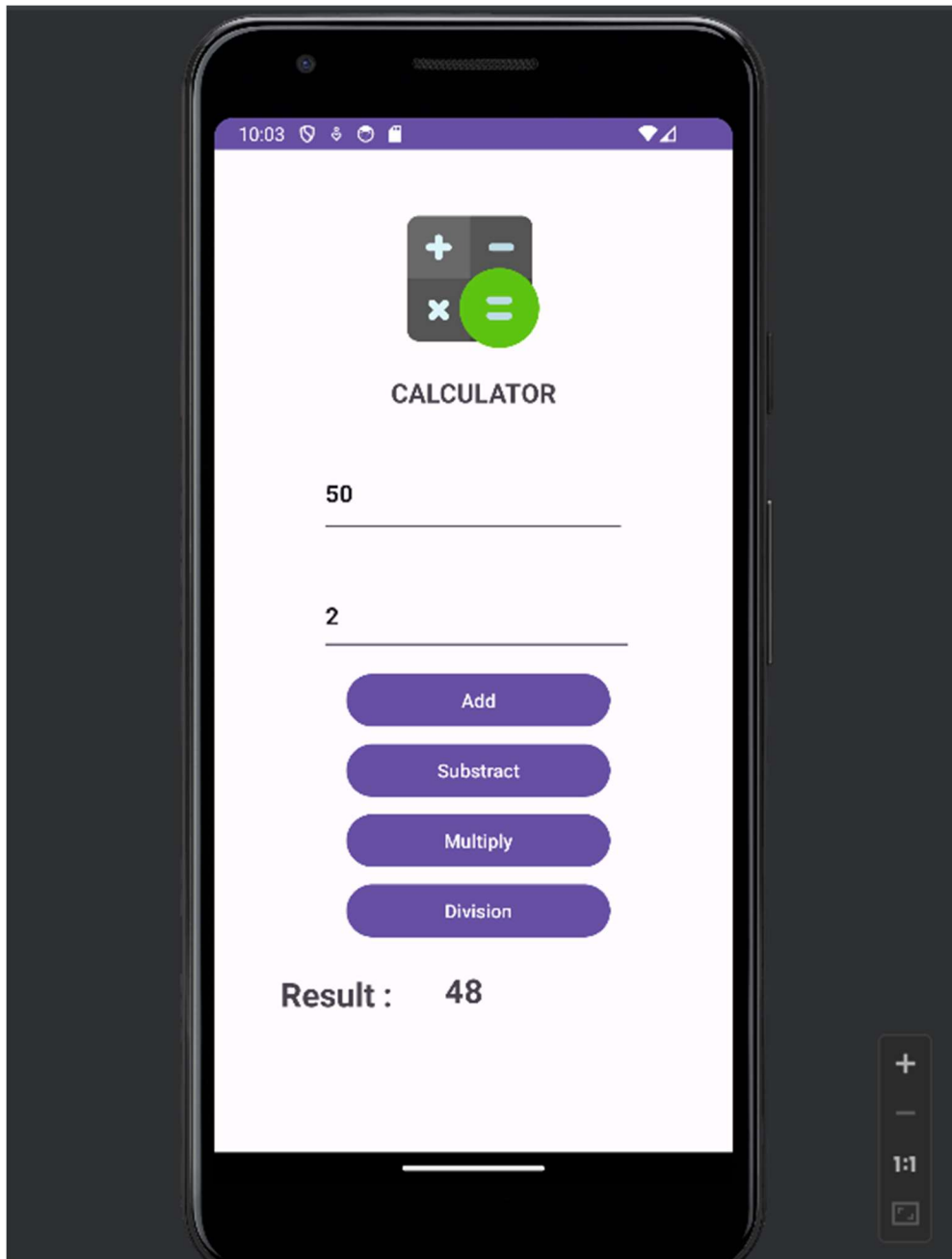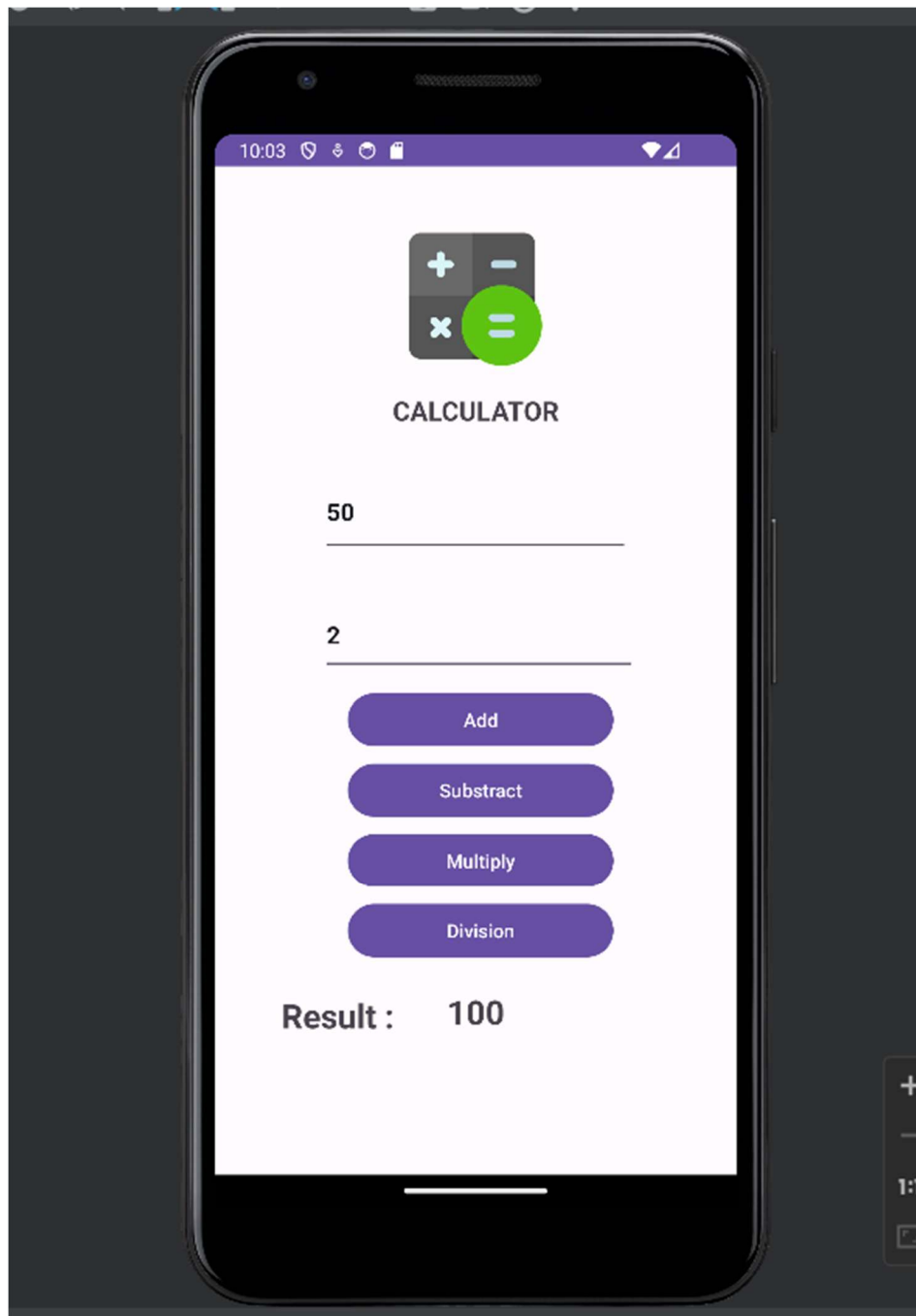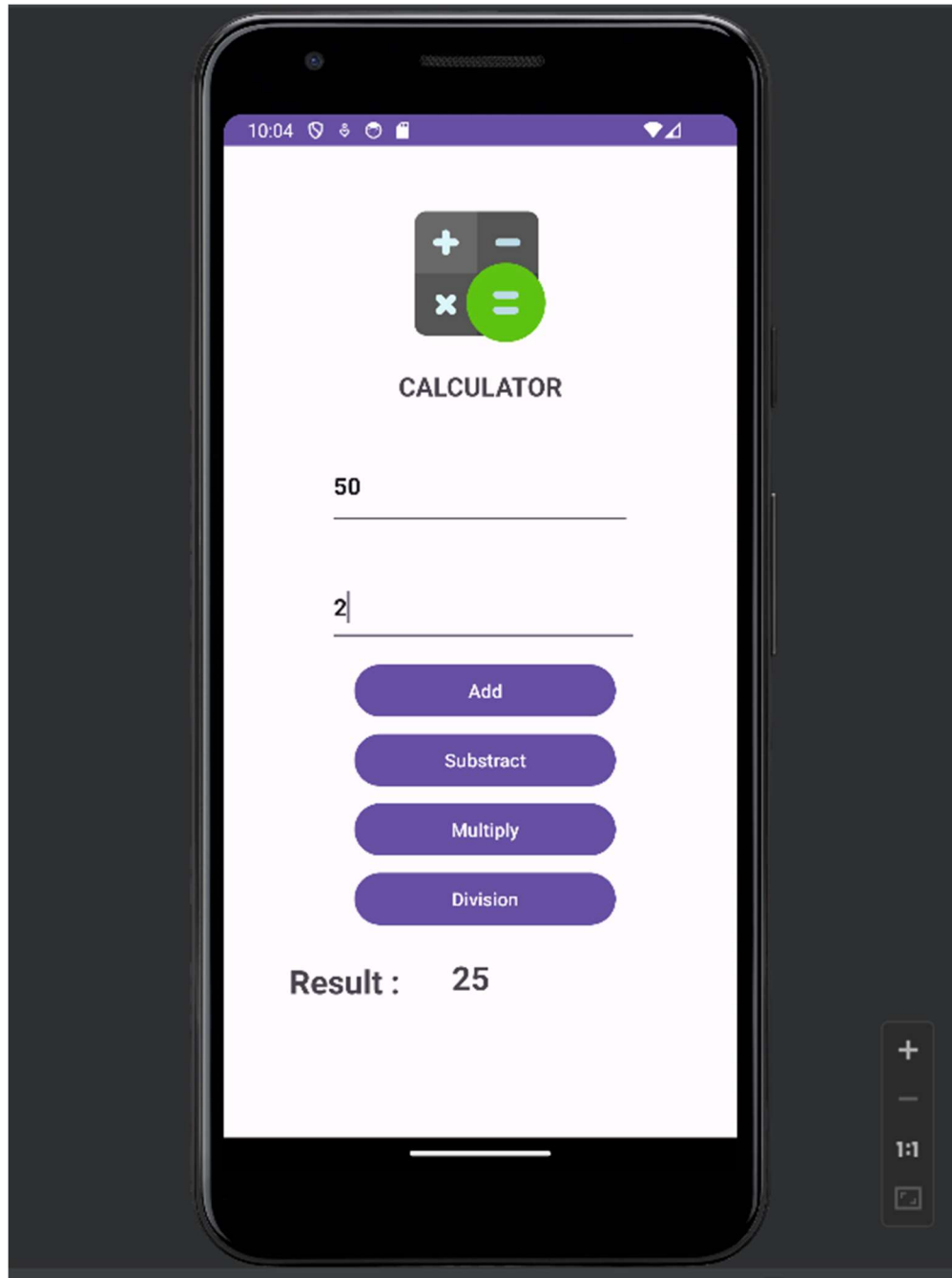
Screenshots:

Addition

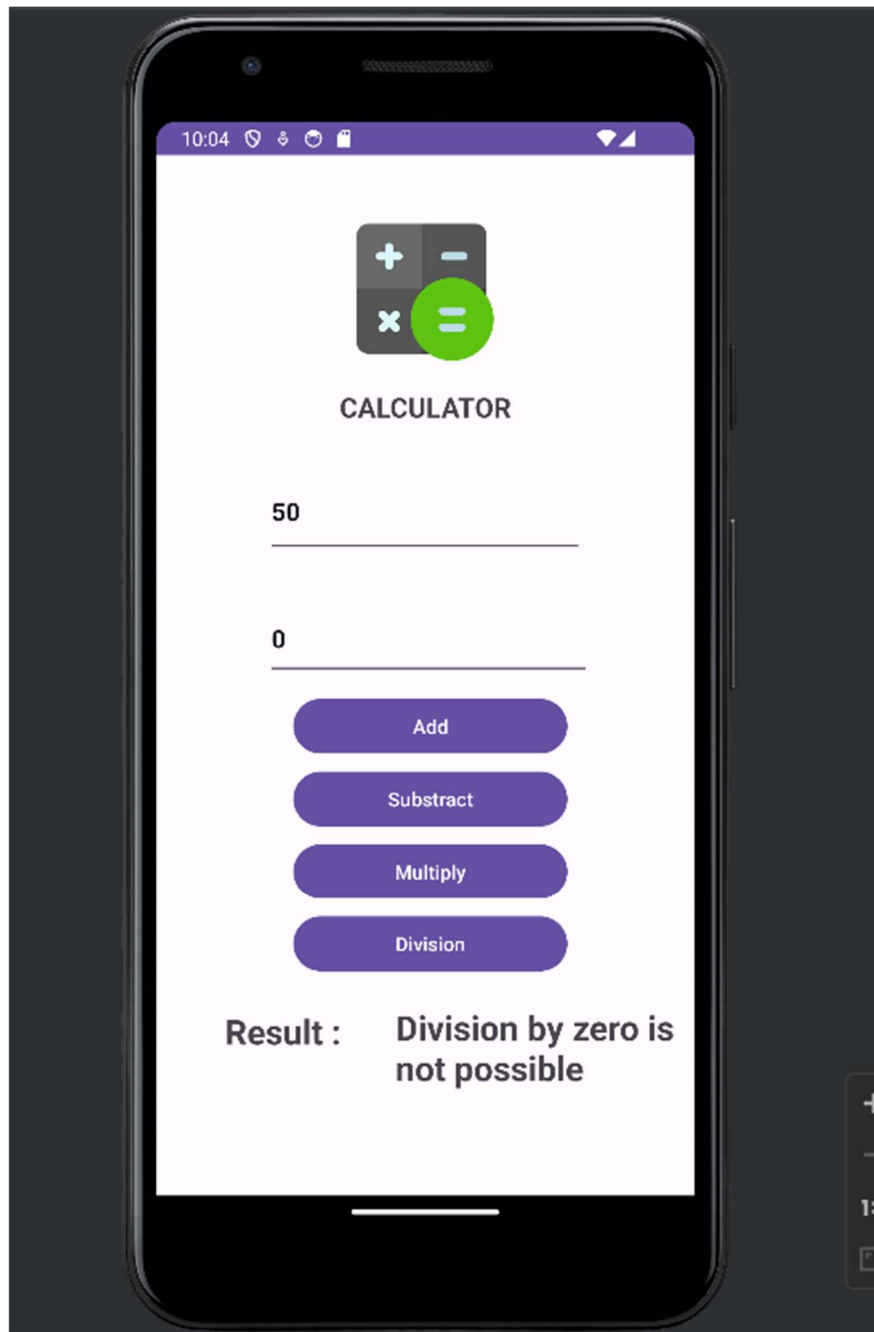**Subtraction**

Multiplication

Division

Division by Zero

2) Login Page:

activity_main.xml

```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"
    android:background="@color/black"
    tools:context=".MainActivity2">


    <TextView
        android:id="@+id/textView5"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_marginTop="50dp"
        android:fontFamily="cursive"
        android:text="@string/welcome"
        android:textAlignment="center"
        android:textColor="@color/white"
        android:textSize="50sp" />

    <TextView
        android:id="@+id/textView6"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_marginTop="30dp"
        android:fontFamily="sans-serif-condensed"
        android:text="@string/sign_in"
        android:textAlignment="center"
        android:textColor="@color/white"
        android:textSize="30sp" />
```

```xml
    <EditText
        android:id="@+id/editText1"
        android:textColorHint="@color/white"
        android:layout_marginTop="100dp"
        android:layout_gravity="center"
        android:layout_width="300dp"
        android:layout_height="wrap_content"
        android:ems="10"
        android:textColor="@color/white"
        android:hint="@string/enter_your_name"
        android:textSize="20sp"
        android:inputType="text" />

    <EditText
        android:id="@+id/editPassword"
        android:layout_marginTop="10dp"
        android:textColorHint="@color/white"
        android:textColor="@color/white"
        android:hint="@string/enter_the_password"
        android:layout_gravity="center"
        android:layout_width="300dp"
        android:textSize="20sp"
        android:layout_height="wrap_content"
        android:ems="10"
        android:inputType="textPassword" />

    <Button

        android:id="@+id/button"
        android:layout_width="250dp"
        android:layout_height="wrap_content"
        android:layout_gravity="center"
        android:layout_marginTop="20dp"
        android:text="@string/sign_in_btn" />

</LinearLayout>
```

Mainactivity.java

```java
package com.example.myfirstapplication;

import androidx.appcompat.app.AppCompatActivity;

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




public class MainActivity2 extends AppCompatActivity {
    EditText name,pass;
    Button btn;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main2);
        name=findViewById(R.id.editText1);
        pass=findViewById(R.id.editPassword);
        btn=findViewById(R.id.button);
        btn.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                String username=name.getText().toString();
                String password=pass.getText().toString();
                if(username.equals("Admin") && password.equals("admin")){
                    Toast.makeText(MainActivity2.this, "Login successful",
Toast.LENGTH_SHORT).show();
```
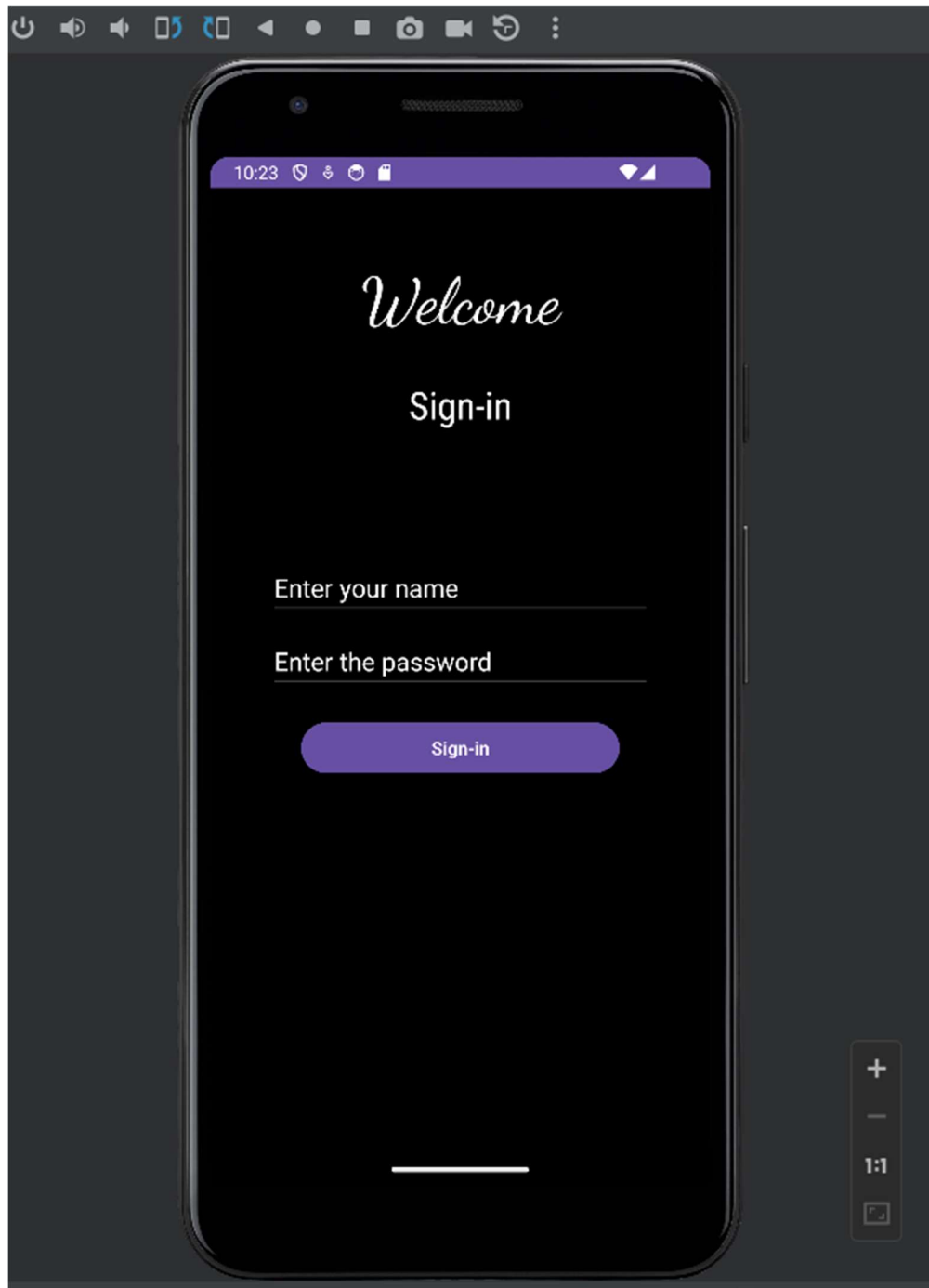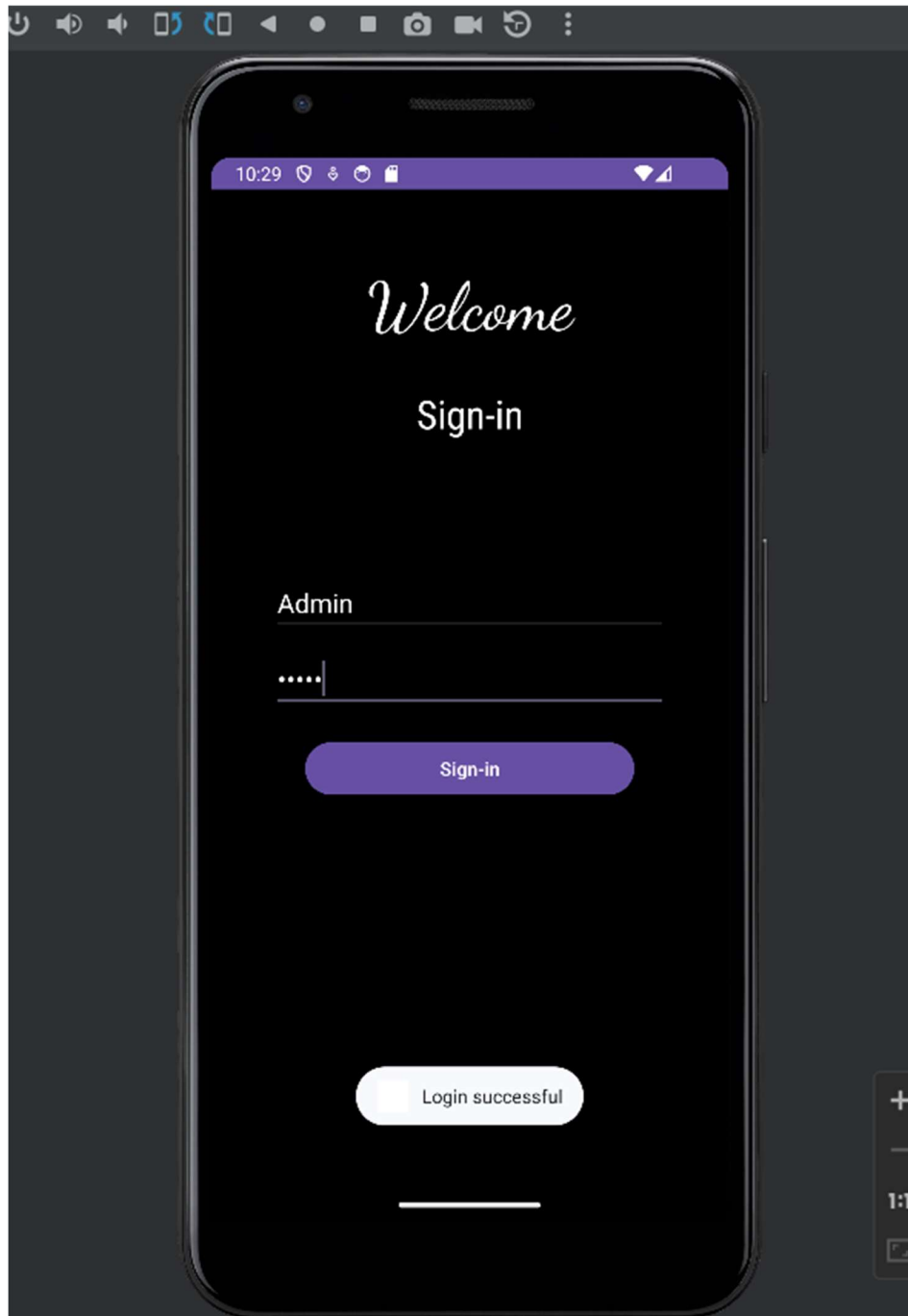
```java
            }
            else {
                Toast.makeText(MainActivity2.this, "Login Failed",
Toast.LENGTH_SHORT).show();
            }
        }
    });
    }
}
```
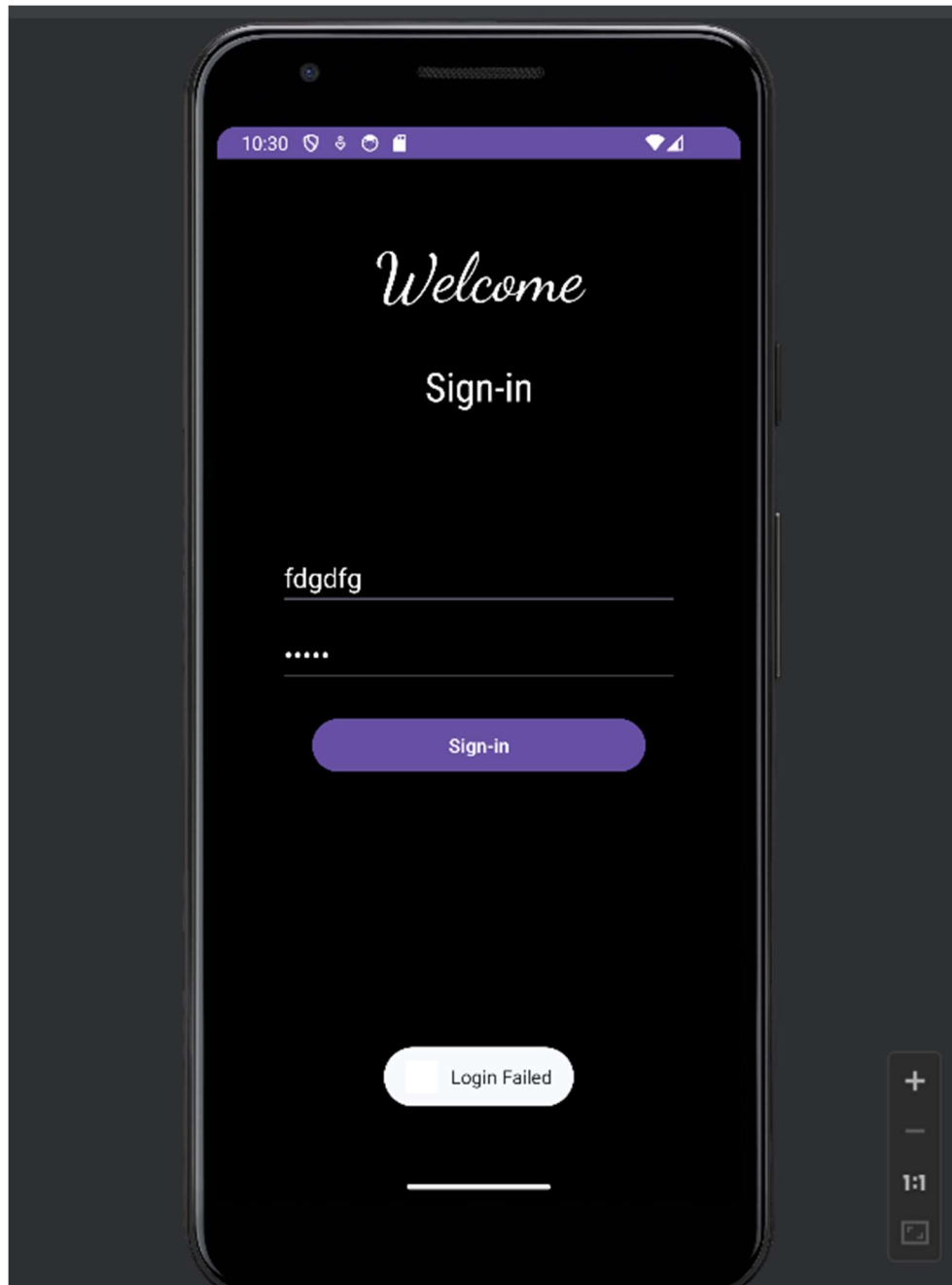
Screenshots:

Correct Credentials:

Wrong Credentials:

3)Form:

activity_main.xml

```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"
    android:background="@color/black"
    tools:context=".MainActivity3">

    <TextView
        android:id="@+id/textView"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_gravity="center"
        android:layout_marginTop="20dp"
        android:fontFamily="serif"
        android:text="Registration Form "
        android:textAlignment="center"
        android:textColor="#E91E63"
        android:textSize="30sp" />
    <LinearLayout
        android:layout_gravity="center"
        android:layout_marginTop="20sp"
        android:layout_width="380sp"
        android:layout_height="wrap_content"
        android:orientation="vertical"
        android:background="@color/white">
        <LinearLayout
            android:layout_width="wrap_content"
```

```xml
        android:layout_height="wrap_content"
        android:orientation="horizontal">

    <TextView
        android:id="@+id/textView2"
        android:layout_width="82dp"
        android:layout_height="wrap_content"
        android:layout_marginTop="30sp"
        android:layout_marginLeft="20sp"
        android:text="Name:"
        android:textSize="20sp" />

    <EditText
        android:id="@+id/editTextText"
        android:layout_marginLeft="20sp"
        android:layout_width="160sp"
        android:layout_height="wrap_content"
        android:layout_marginTop="30sp"
        android:ems="10"
        android:hint="Enter your name"
        android:textSize="20sp"
        android:inputType="text" />

</LinearLayout>
<LinearLayout
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:orientation="horizontal">
    <TextView
        android:id="@+id/textView3"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginTop="30sp"
        android:layout_marginLeft="20sp"
        android:text="Email:"
        android:textSize="20sp" />
    <EditText
```

```
        android:id="@+id/editTextTextEmailAddress"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginLeft="50sp"
        android:layout_marginTop="30sp"
        android:hint="Enter your Email"
        android:textSize="20sp" />

</LinearLayout>
<LinearLayout
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:orientation="horizontal">

    <TextView
        android:id="@+id/textView7"
        android:layout_width="82dp"
        android:layout_height="wrap_content"
        android:layout_marginTop="30sp"
        android:layout_marginLeft="20sp"
        android:text="Regno:"
        android:textSize="20sp" />

    <EditText
        android:id="@+id/editTextText7"
        android:layout_marginLeft="20sp"
        android:layout_width="160sp"
        android:layout_height="wrap_content"
        android:layout_marginTop="30sp"
        android:ems="10"
        android:hint="Enter your Regno"
        android:textSize="20sp"
        android:inputType="text" />

</LinearLayout>
<LinearLayout
    android:layout_width="wrap_content"
```

```xml
android:layout_height="wrap_content"
android:orientation="horizontal">
<TextView
    android:id="@+id/textView4"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginTop="30sp"
    android:layout_marginLeft="20sp"
    android:text="Gender:"
    android:textSize="20sp" />
<RadioGroup
    android:layout_marginLeft="40sp"
    android:id="@+id/RG"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content">
    <RadioButton
        android:id="@+id/RB1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Male">

    </RadioButton>
    <RadioButton
        android:id="@+id/RB2"

        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Female">

    </RadioButton>
    <RadioButton
        android:id="@+id/RB3"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="transgender">
```

```xml
        </RadioButton>
    </RadioGroup>
</LinearLayout>
<LinearLayout
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:orientation="horizontal">

    <TextView
        android:id="@+id/textView6"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginTop="30sp"
        android:layout_marginLeft="20sp"
        android:text="DOB:"
        android:textSize="20sp" />
    <TextView
        android:id="@+id/idTVSelectedDate"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_above="@id/idBtnPickDate"
        android:layout_centerInParent="true"
        android:layout_marginTop="30dp"
        android:layout_marginLeft="30dp"
        android:gravity="center"
        android:padding="10dp"
        android:text="Date"

        android:textAlignment="center"
        android:textColor="@color/black"
        android:textSize="20sp"
        android:textStyle="bold" />
    <Button
        android:id="@+id/idBtnPickDate"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_centerInParent="true"
```

```xml
        android:layout_marginTop="30dp"
        android:layout_marginLeft="30dp"
        android:text="Pick Date"
        android:textAllCaps="false" />
</LinearLayout>
<LinearLayout
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:orientation="horizontal">

    <TextView
        android:id="@+id/textView5"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginTop="30sp"
        android:layout_marginLeft="20sp"
        android:text="Languages:"
        android:textSize="20sp" />
    <CheckBox
        android:id="@+id/cb1"
        android:layout_marginTop="30sp"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="English"
        android:checked="true"/>
    <CheckBox
        android:id="@+id/cb2"
        android:layout_marginTop="30sp"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Hindi"/>
    <CheckBox
        android:id="@+id/cb3"
        android:layout_marginTop="30sp"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Malayalam"/>
```

```xml
        </LinearLayout>

    </LinearLayout>
    <Button
        android:id="@+id/sbt"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Submit"
        android:layout_gravity="center_horizontal"
        android:layout_marginTop="50sp"/>
```

```

</LinearLayout>
```

MainActivity.java

```java
package com.example.myfirstapplication;

import  androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.TextView;
import android.widget.Toast;
import android.app.DatePickerDialog;
import android.widget.DatePicker;
import java.util.Calendar;

public class MainActivity3 extends AppCompatActivity {

    private Button pickDateBtn;
    private TextView selectedDateTV;
    @Override
```

```java
protected void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity_main3);
    Button btn= findViewById(R.id.sbt);
    btn.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {

Toast.makeText(MainActivity3.this,"Submitted",Toast.LENGTH_SHORT).show();
        }
    });

    pickDateBtn = findViewById(R.id.idBtnPickDate);
    selectedDateTV = findViewById(R.id.idTVSelectedDate);
    pickDateBtn.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {
            final Calendar c = Calendar.getInstance();


            int year = c.get(Calendar.YEAR);
            int month = c.get(Calendar.MONTH);
            int day = c.get(Calendar.DAY_OF_MONTH);


            DatePickerDialog datePickerDialog = new DatePickerDialog(

                    MainActivity3.this,
                    new DatePickerDialog.OnDateSetListener() {
                        @Override
                        public void onDateSet(DatePicker view, int year,
                                int monthOfYear, int dayOfMonth) {
                            selectedDateTV.setText(dayOfMonth + "-" + (monthOfYear +
1) + "-" + year);

                        }
                    },
```

```
                    year, month, day);
            datePickerDialog.show();
        }
    });


    }
}
```
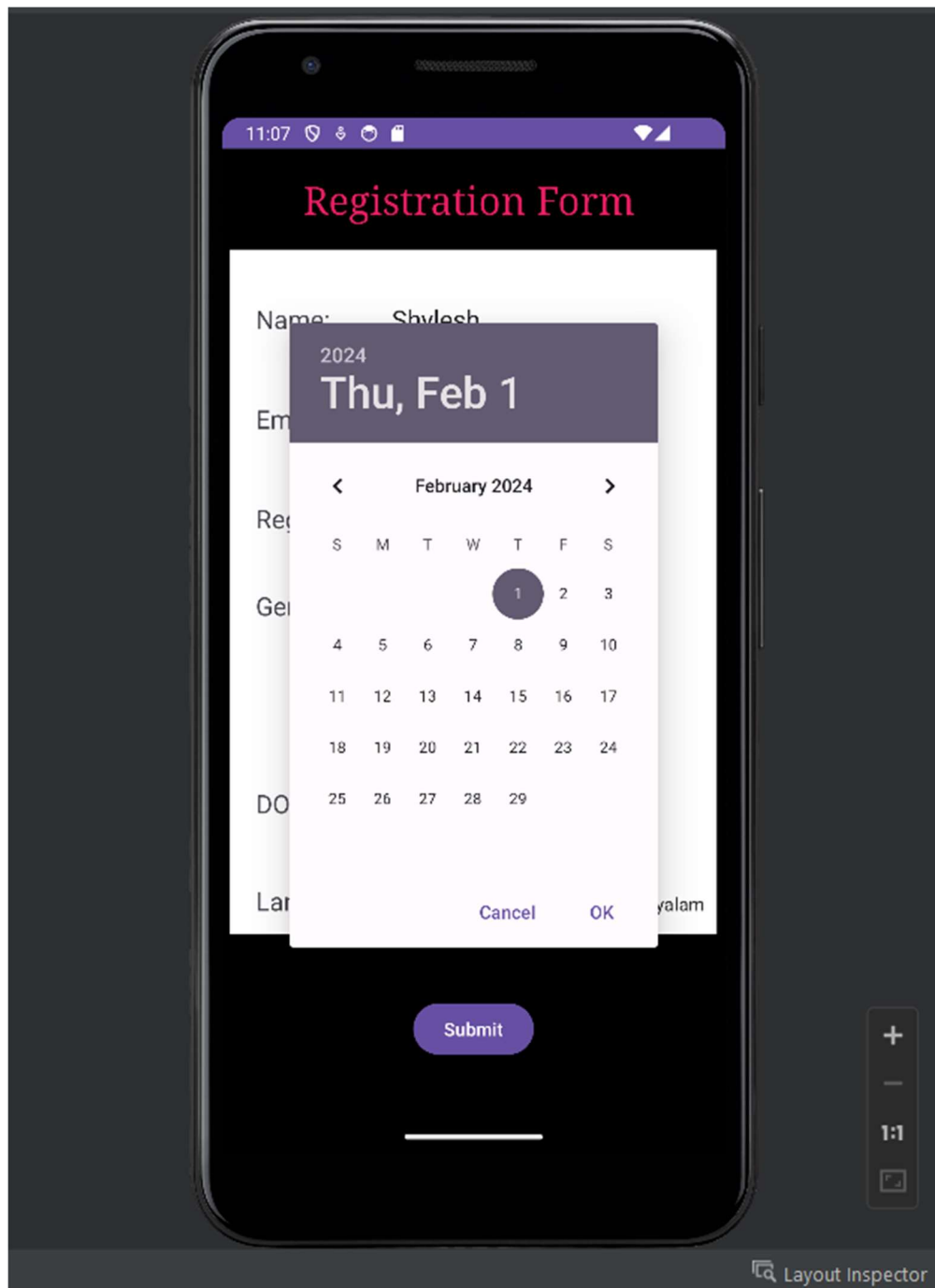
Screenshots:

DatePicker:

Entering Details:

Submitted:

Registration Form

Name: Shylesh

Email: shylesh@gmail.com

Regno: 23MC0346

Gender:
- ⦿ Male
- ○ Female
- ○ transgender

DOB: **13-10-2002** Pick Date

Languages: ☑ English ☑ Hindi ☑ Malayalam

Submitted

4)Image Changing:

activity_main:

```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=".MainActivity4">
    <TextView
        android:id="@+id/textView8"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:textSize="30sp"
        android:layout_gravity="center"
        android:textAlignment="center"
        android:layout_marginTop="20dp"
        android:fontFamily="serif"
        android:text="Image Change Puzzle" />

    <ImageView
        android:id="@+id/imageView"
        android:src="@drawable/welcome"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        tools:layout_editor_absoluteX="141dp"
        tools:layout_editor_absoluteY="84dp"
        android:layout_gravity="center"
        android:layout_marginTop="50dp"
        tools:srcCompat="@tools:sample/avatars" />

    <Button
        android:id="@+id/img1"
```

```xml
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="Image-1"
        android:layout_gravity="center"
        android:layout_marginTop="60dp"/>
    <Button
        android:id="@+id/img2"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_marginTop="30dp"
        android:layout_gravity="center"
        android:text="Image-2"/>
    <Button
        android:id="@+id/img3"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_marginTop="30dp"
        android:layout_gravity="center"
        android:text="Image-3"/>


</LinearLayout>
```

MainActivity.java

```java
package com.example.myfirstapplication;

import androidx.appcompat.app.AppCompatActivity;

import android.graphics.BitmapFactory;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.ImageView;

public class MainActivity4 extends AppCompatActivity {
```

```java
@Override
protected void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity_main4);
    Button btn1=findViewById(R.id.img1);
    Button btn2=findViewById(R.id.img2);
    Button btn3=findViewById(R.id.img3);
    ImageView img=findViewById(R.id.imageView);

    btn1.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {
            img.setImageResource(R.drawable.bird);
        }
    });
    btn2.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {

img.setImageDrawable(getResources().getDrawable(R.drawable.flower));
        }
    });
    btn3.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {

img.setImageBitmap(BitmapFactory.decodeResource(getResources(),R.drawable.nature));
        }
    });

    }
}
```
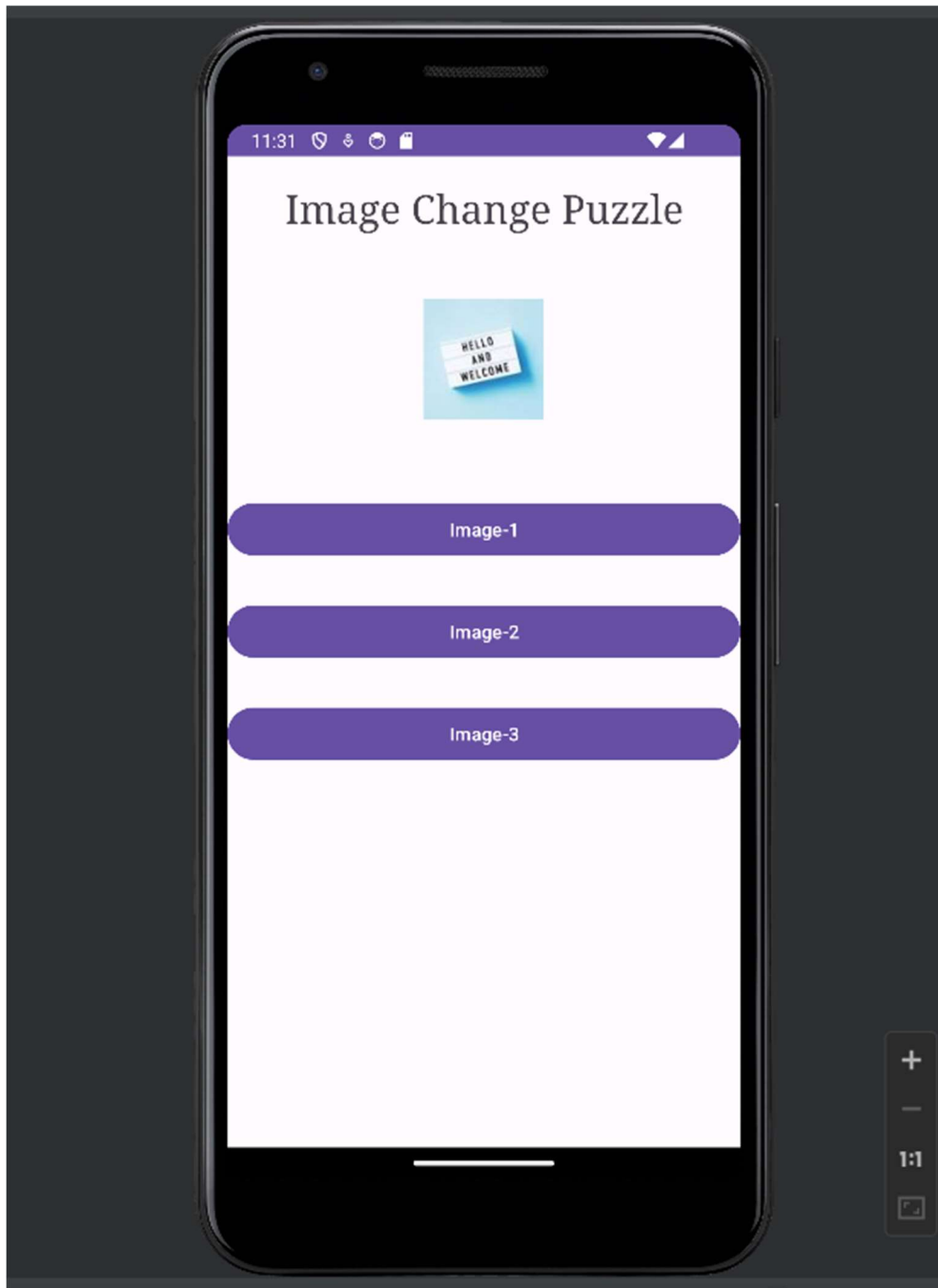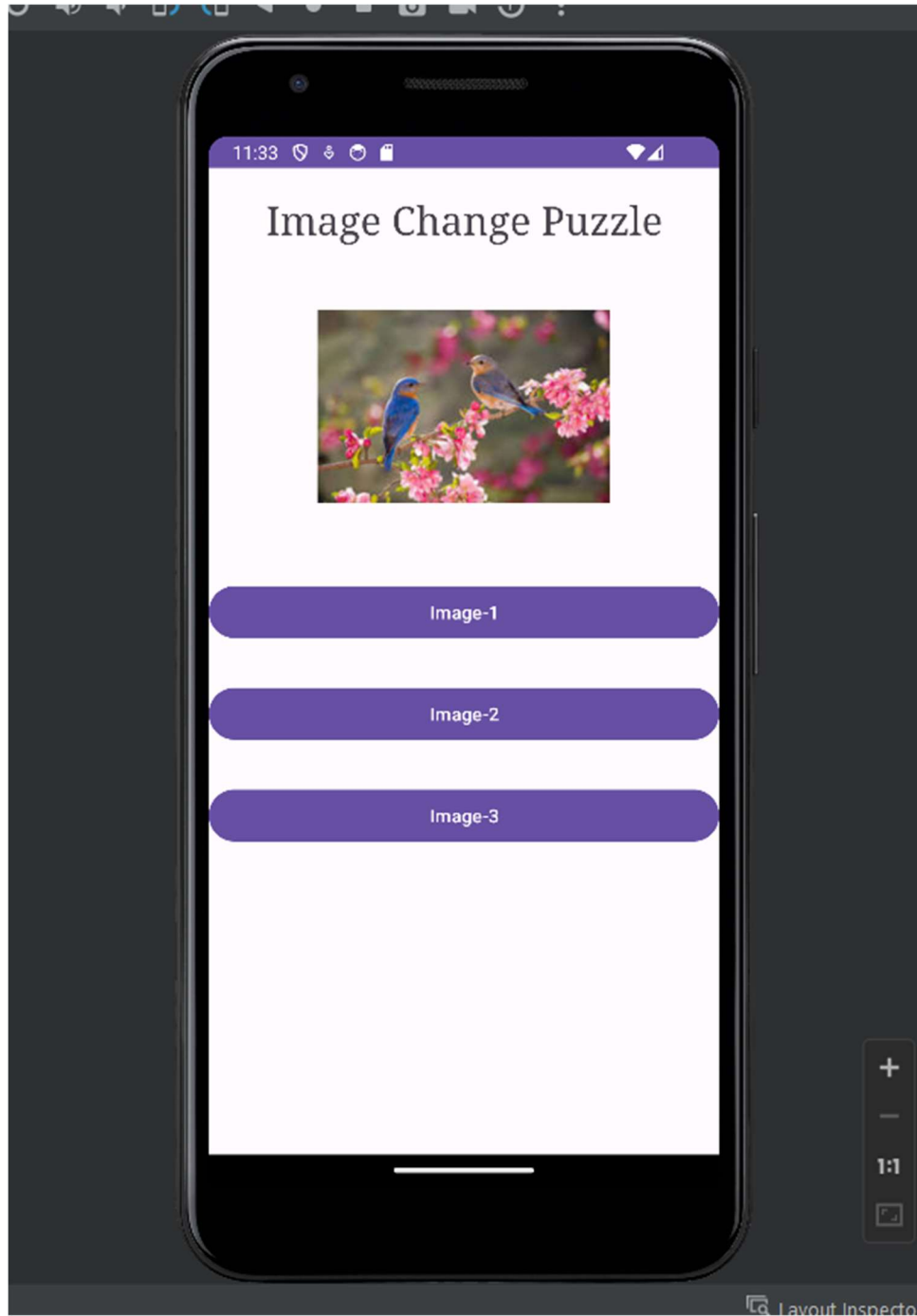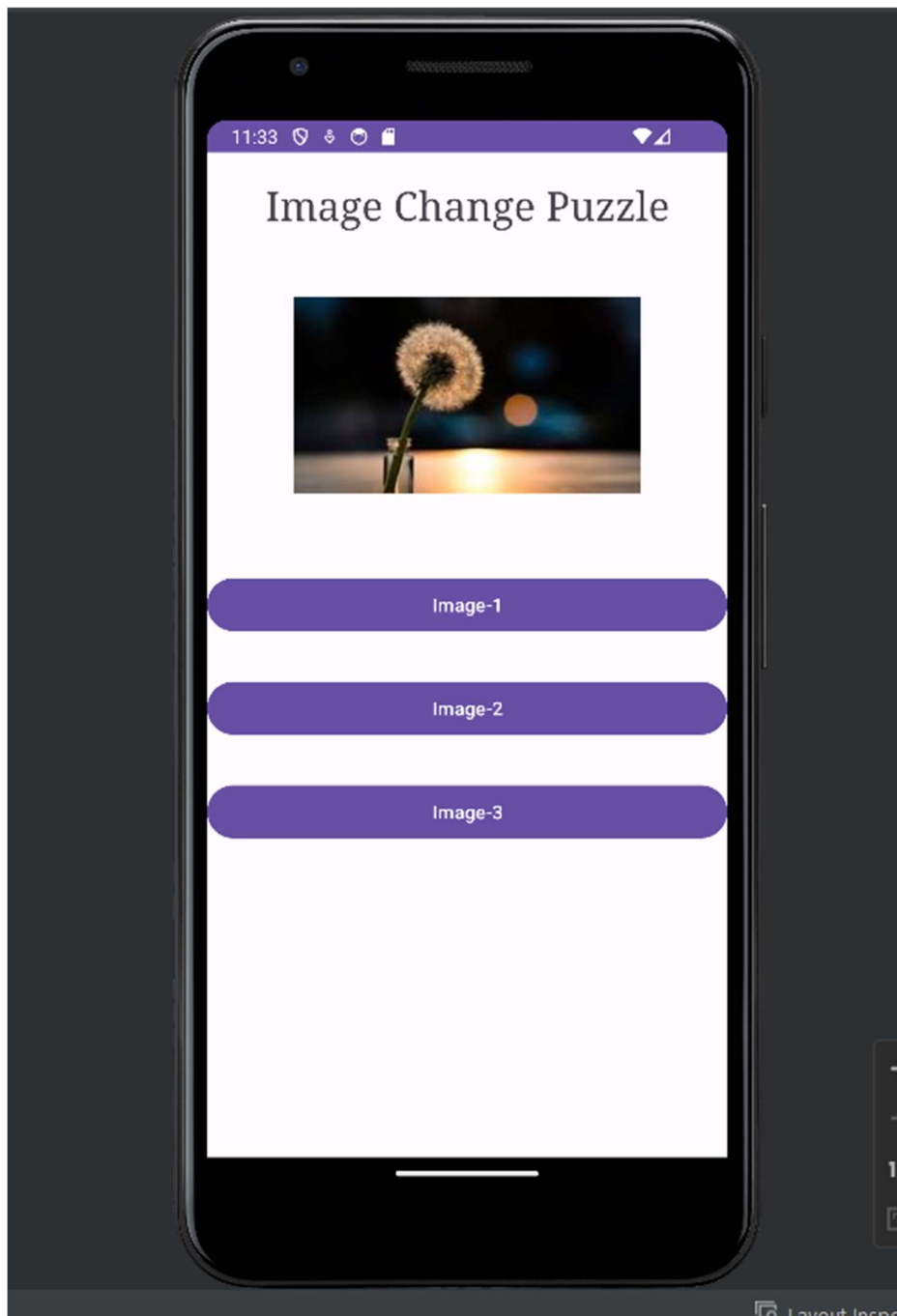
Screenshots:

Loading phase:

Img1:

Img2:

Img3: