```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">

    <RelativeLayout
        android:layout_width="match_parent"
        android:layout_height="150dp">

        <TextView
            android:id="@+id/textView"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_alignParentLeft="true"
            android:layout_alignParentTop="true"
            android:layout_alignParentRight="true"
            android:layout_marginLeft="26dp"
            android:layout_marginTop="68dp"
            android:layout_marginRight="222dp"
            android:text="RETRIVE AI"
            android:textColor="#6025CA"
            android:textSize="30sp"
            android:textStyle="bold" />

        <ImageView
            android:id="@+id/imageView"
            android:layout_width="146dp"
            android:layout_height="102dp"
            android:layout_alignParentStart="false"
            android:layout_alignParentLeft="true"
            android:layout_alignParentTop="true"
            android:layout_alignParentRight="true"
            android:layout_marginLeft="262dp"
            android:layout_marginTop="34dp"
            android:layout_marginRight="15dp"
            app:srcCompat="@drawable/retrive" />
    </RelativeLayout>

    <View
        android:id="@+id/view"
        android:layout_width="match_parent"
        android:layout_height="2dp"
        android:background="@color/black"/>

    <TextView
        android:id="@+id/textView2"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:paddingTop="25dp"
        android:text="Samyak"
        android:textAlignment="center"
        android:textColor="#C62059"
        android:textSize="20sp" />
    <TextView
        android:id="@+id/textView3"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
```

```xml
        android:paddingTop="25dp"
        android:text="AI Engineer"
        android:textAlignment="center"
        android:textColor="#C62059"
        android:textSize="20sp" />
    <TextView
        android:id="@+id/textView4"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:paddingTop="25dp"
        android:text="Phone Number: 7022400767"
        android:textAlignment="center"
        android:textColor="#C62059"
        android:textSize="20sp" />
    <TextView
        android:id="@+id/textView5"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:paddingTop="25dp"
        android:text="Bombay"
        android:textAlignment="center"
        android:textColor="#C62059"
        android:textSize="20sp" />
    <TextView
        android:id="@+id/textView6"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:paddingTop="25dp"
        android:text="samyak@retrive.ai"
        android:textAlignment="center"
        android:textColor="#C62059"
        android:textSize="20sp" />
</LinearLayout>
```

Calculator

```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_nine"
        android:layout_width="62dp"
        android:layout_height="48dp"
        android:text="9"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.123"
```

```xml
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.467" />
<Button
        android:id="@+id/button_zero"
        android:layout_width="63dp"
        android:layout_height="46dp"
        android:text="0"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.39"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.465"
        tools:ignore="TouchTargetSizeCheck" />
<Button
        android:id="@+id/button_sub"
        android:layout_width="69dp"
        android:layout_height="49dp"
        android:text="-"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.953"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.463" />
<Button
        android:id="@+id/button_add"
        android:layout_width="65dp"
        android:layout_height="44dp"
        android:text="+"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.656"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.467"
        tools:ignore="TouchTargetSizeCheck" />
<Button
        android:id="@+id/button_equal"
        android:layout_width="62dp"
        android:layout_height="48dp"
        android:text="="
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.163"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.689" />
<Button
        android:id="@+id/button_mul"
        android:layout_width="62dp"
        android:layout_height="48dp"
        android:text="*"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.123"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.568" />
<Button
```

```xml
        android:id="@+id/button_div"
        android:layout_width="63dp"
        android:layout_height="46dp"
        android:text="/"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.39"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.566"
        tools:ignore="TouchTargetSizeCheck" />
<Button
        android:id="@+id/button_clear"
        android:layout_width="69dp"
        android:layout_height="49dp"
        android:text="C"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.953"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.564" />
<Button
        android:id="@+id/button_dot"
        android:layout_width="65dp"
        android:layout_height="44dp"
        android:text="."
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.656"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.567"
        tools:ignore="TouchTargetSizeCheck" />
<Button
        android:id="@+id/button_five"
        android:layout_width="62dp"
        android:layout_height="48dp"
        android:text="5"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.123"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.377" />
<Button
        android:id="@+id/button_six"
        android:layout_width="63dp"
        android:layout_height="46dp"
        android:text="6"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.39"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.376"
        tools:ignore="TouchTargetSizeCheck" />
<Button
        android:id="@+id/button_eight"
        android:layout_width="69dp"
        android:layout_height="49dp"
```

```xml
        android:text="8"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.953"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.373" />
<Button
        android:id="@+id/button_seven"
        android:layout_width="65dp"
        android:layout_height="44dp"
        android:text="7"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.656"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.378"
        tools:ignore="TouchTargetSizeCheck" />
<Button
        android:id="@+id/button_one"
        android:layout_width="62dp"
        android:layout_height="48dp"
        android:text="1"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.123"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.281" />
<Button
        android:id="@+id/button_two"
        android:layout_width="63dp"
        android:layout_height="46dp"
        android:text="2"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.39"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.28"
        tools:ignore="TouchTargetSizeCheck" />
<Button
        android:id="@+id/button_three"
        android:layout_width="65dp"
        android:layout_height="44dp"
        android:text="3"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.656"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.282"
        tools:ignore="TouchTargetSizeCheck" />
<TextView
        android:id="@+id/textView"
        android:layout_width="310dp"
        android:layout_height="46dp"
        android:text="Simple Calculator"
        android:textColor="#C2185B"
        android:textSize="25dp"
```

```xml
        android:textStyle="bold"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintHorizontal_bias="0.422"
        app:layout_constraintLeft_toLeftOf="parent"
        app:layout_constraintRight_toRightOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.058" />
    <TextView
        android:id="@+id/textView2"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Result"
        android:textColor="#00796B"
        android:textSize="20dp"
        android:textStyle="bold"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.07"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.176" />
    <EditText
        android:id="@+id/txt_result"
        android:layout_width="249dp"
        android:layout_height="40dp"
        android:layout_marginTop="20dp"
        android:ems="10"
        android:inputType="textPersonName"
        android:text=""
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.839"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.135"
        tools:ignore="SpeakableTextPresentCheck,TouchTargetSizeCheck" />
    <Button
        android:id="@+id/button_four"
        android:layout_width="69dp"
        android:layout_height="49dp"
        android:text="4"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.952"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.277" />
</androidx.constraintlayout.widget.ConstraintLayout>
```

```java
package com.example.simplecalculators;
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;
import java.util.regex.Pattern;
public class MainActivity extends AppCompatActivity implements
```

```java
        View.OnClickListener {
Button btnOne, btnTwo, btnThree, btnFour, btnFive, btnSix;
Button btnSeven, btnEight, btnNine, btnZero;
Button btnAdd, btnSub, btnMul, btnDiv;
Button btnClear, btnEqual, btnDot;
EditText txtResult;
@Override
protected void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity_main);
    btnOne = (Button) findViewById(R.id.button_one);
    btnOne.setOnClickListener(this);
    btnTwo = (Button) findViewById(R.id.button_two);
    btnTwo.setOnClickListener(this);
    btnThree = (Button) findViewById(R.id.button_three);
    btnThree.setOnClickListener(this);
    btnFour = (Button) findViewById(R.id.button_four);
    btnFour.setOnClickListener(this);
    btnFive = (Button) findViewById(R.id.button_five);
    btnFive.setOnClickListener(this);
    btnSix = (Button) findViewById(R.id.button_six);
    btnSix.setOnClickListener(this);
    btnSeven = (Button) findViewById(R.id.button_seven);
    btnSeven.setOnClickListener(this);
    btnEight = (Button) findViewById(R.id.button_eight);
    btnEight.setOnClickListener(this);
    btnNine = (Button) findViewById(R.id.button_nine);
    btnNine.setOnClickListener(this);
    btnZero = (Button) findViewById(R.id.button_zero);
    btnZero.setOnClickListener(this);
    btnAdd = (Button) findViewById(R.id.button_add);
    btnAdd.setOnClickListener(this);
    btnSub = (Button) findViewById(R.id.button_sub);
    btnSub.setOnClickListener(this);
    btnMul = (Button) findViewById(R.id.button_mul);
    btnMul.setOnClickListener(this);
    btnDiv = (Button) findViewById(R.id.button_div);
    btnDiv.setOnClickListener(this);
    btnClear = (Button) findViewById(R.id.button_clear);
    btnClear.setOnClickListener(this);
    btnEqual = (Button) findViewById(R.id.button_equal);
    btnEqual.setOnClickListener(this);
    btnDot = (Button) findViewById(R.id.button_dot);
    btnDot.setOnClickListener(this);
    txtResult = (EditText) findViewById(R.id.txt_result);
    txtResult.setText("");
}
@Override
public void onClick(View v)
{
    if (v.equals(btnOne))
        txtResult.append("1");
    if (v.equals(btnTwo))
        txtResult.append("2");
    if (v.equals(btnThree))
        txtResult.append("3");
    if (v.equals(btnFour))
        txtResult.append("4");
    if (v.equals(btnFive))
        txtResult.append("5");
    if (v.equals(btnSix))
```

```java
            txtResult.append("6");
        if (v.equals(btnSeven))
            txtResult.append("7");
        if (v.equals(btnEight))
            txtResult.append("8");
        if (v.equals(btnNine))
            txtResult.append("9");
        if (v.equals(btnZero))
            txtResult.append("0");
        if (v.equals(btnDot))
            txtResult.append(".");
        if (v.equals(btnClear))
            txtResult.setText("");
        if (v.equals(btnAdd))
            txtResult.append("+");
        if (v.equals(btnSub))
            txtResult.append("-");
        if (v.equals(btnMul))
            txtResult.append("*");
        if (v.equals(btnDiv))
            txtResult.append("/");
        if (v.equals(btnEqual))
        {
            try {
                String data = txtResult.getText().toString();
                if (data.contains("/")) {
                    String[] operands = data.split("/");
                    if (operands.length == 2) {
                        double operand1 = Double.parseDouble(operands[0]);
                        double operand2 = Double.parseDouble(operands[1]);
                        double result = operand1 / operand2;
                        txtResult.setText(String.valueOf(result));
                    } else {
                        Toast.makeText(getBaseContext(), "Invalid Input",
                                Toast.LENGTH_LONG).show();
                    }
                } else if (data.contains("*")) {
                    String[] operands = data.split(Pattern.quote("*"));
                    if (operands.length == 2) {
                        double operand1 = Double.parseDouble(operands[0]);
                        double operand2 = Double.parseDouble(operands[1]);
                        double result = operand1 * operand2;
                        txtResult.setText(String.valueOf(result));
                    } else {
                        Toast.makeText(getBaseContext(), "Invalid Input",
                                Toast.LENGTH_LONG).show();
                    }
                } else if (data.contains("+"))
                {
                    String[] operands = data.split(Pattern.quote("+"));
                    if (operands.length == 2) {
                        double operand1 = Double.parseDouble(operands[0]);
                        double operand2 = Double.parseDouble(operands[1]);
                        double result = operand1 + operand2;
                        txtResult.setText(String.valueOf(result));
                    }
                    else {
                        Toast.makeText(getBaseContext(), "Invalid Input",
                                Toast.LENGTH_LONG).show();
                    }
                }
```

```java
            else if (data.contains("-"))
            {
                String[] operands = data.split("-");
                if (operands.length == 2) {
                    double operand1 = Double.parseDouble(operands[0]);
                    double operand2 = Double.parseDouble(operands[1]);
                    double result = operand1 - operand2;
                    txtResult.setText(String.valueOf(result));
                }
                else
                {
                    Toast.makeText(getBaseContext(), "Invalid Input",
                            Toast.LENGTH_LONG).show();
                }
            }
        }
        catch (Exception e)
        {
            Toast.makeText(getBaseContext(), "Invalid Input",
                    Toast.LENGTH_LONG).show();
        }
    }
}
}
```

signup login

activity_main.xml

```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/textView4"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="SIGN UP"
        android:textColor="#E91E63"
        android:textSize="22dp"
        android:textStyle="bold"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintLeft_toLeftOf="parent"
        app:layout_constraintRight_toRightOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.074" />

    <TextView
        android:id="@+id/textView"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="USERNAME"
        android:textColor="#E91E63"
```

```xml
        android:textSize="18dp"
        android:textStyle="bold"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.177"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.216" />

    <EditText
        android:id="@+id/txt_username"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginStart="172dp"
        android:ems="10"
        android:inputType="textPersonName"
        android:minHeight="48dp"
        android:textColor="#E91E63"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.192"
        tools:ignore="SpeakableTextPresentCheck" />

    <TextView
        android:id="@+id/textView3"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="PASSWORD"
        android:textColor="#E91E63"
        android:textSize="18dp"
        android:textStyle="bold"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.174"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.342" />

    <EditText
        android:id="@+id/txt_password"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:ems="10"
        android:inputType="textPassword"
        android:minHeight="48dp"
        android:textColor="#E91E63"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.855"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.322"
        tools:ignore="SpeakableTextPresentCheck" />

    <Button
        android:id="@+id/button_signup"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:backgroundTint="#E91E63"
        android:text="SIGN UP"
```

```
            app:layout_constraintBottom_toBottomOf="parent"
            app:layout_constraintEnd_toEndOf="parent"
            app:layout_constraintStart_toStartOf="parent"
            app:layout_constraintTop_toTopOf="parent" />

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

Activity_login.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=".login">

    <TextView
        android:id="@+id/textView4"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="LOGIN"
        android:textColor="#E91E63"
        android:textSize="22dp"
        android:textStyle="bold"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintLeft_toLeftOf="parent"
        app:layout_constraintRight_toRightOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.074" />

    <TextView
        android:id="@+id/textView"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="USERNAME"
        android:textColor="#E91E63"
        android:textSize="18dp"
        android:textStyle="bold"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.177"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.216" />

    <EditText
        android:id="@+id/txt_login_username"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginStart="172dp"
        android:ems="10"
        android:inputType="textPersonName"
        android:minHeight="48dp"
        android:textColor="#E91E63"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintStart_toStartOf="parent"
```

```xml
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.192"
        tools:ignore="SpeakableTextPresentCheck" />

    <TextView
        android:id="@+id/textView3"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="PASSWORD"
        android:textColor="#E91E63"
        android:textSize="18dp"
        android:textStyle="bold"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.174"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.342" />

    <EditText
        android:id="@+id/txt_login_password"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:ems="10"
        android:inputType="textPassword"
        android:minHeight="48dp"
        android:textColor="#E91E63"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.855"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.322"
        tools:ignore="SpeakableTextPresentCheck" />

    <Button
        android:id="@+id/login_button"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:backgroundTint="#E91E63"
        android:text="LOGIN"
        android:textColor="#FAF6F7"
        app:iconTint="#E91E63"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:strokeColor="#F44336" />

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

Login.java

```java
package com.example.signuplogin;

import androidx.appcompat.app.AppCompatActivity;

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

```java
import android.widget.EditText;
import android.widget.Toast;
public class login extends AppCompatActivity implements
View.OnClickListener {
    EditText LoginUsername;
    EditText LoginPassword;
    Button btnLogin;
    String user,pass;
    int count=0;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_login);
                LoginUsername = (EditText)
findViewById(R.id.txt_login_username);
                LoginPassword = (EditText)
findViewById(R.id.txt_login_password);
                btnLogin = (Button) findViewById(R.id.login_button);
                btnLogin.setOnClickListener(this);
                Bundle bundle = getIntent().getBundleExtra("data");
                user = bundle.getString("rnsit");
                pass = bundle.getString("Lab@2020");
        }
            public void onClick (View v)
            {
                String user1 = LoginUsername.getText().toString();
                String pass1 = LoginPassword.getText().toString();
                if (user.equals(user1) && pass.equals(pass1)) {
                    Toast.makeText(this, "Login Successful",
Toast.LENGTH_LONG).show();
                } else {
                    count++;
                    if (count == 3)
                    {
                        btnLogin.setEnabled(false);
                        Toast.makeText(this, "Failed Login Attempts" ,
Toast.LENGTH_LONG).show();
                    } else {
                        Toast.makeText(this, "Login Failed " + count,
Toast.LENGTH_LONG).show();
                    }
                }
            }

        }
```

mainActivity.java

```java
package com.example.signuplogin;

import androidx.appcompat.app.AppCompatActivity;

import android.content.Intent;
import android.content.pm.LabeledIntent;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
```

```java
import android.widget.Toast;

import java.util.regex.Matcher;
import java.util.regex.Pattern;

public class MainActivity extends AppCompatActivity implements
View.OnClickListener {
    EditText Username;
    EditText Password;
    Button signup;
    String regularExpression="^(?=.*[A-Z])(?=.*[a-
z])(?=.*\\d)(?=.*[@$!])[A-Za-z\\d@$!]{8,}$";
    @Override
    protected void onCreate(Bundle savedInstanceState) {

            super.onCreate(savedInstanceState);
            setContentView(R.layout.activity_main);
            Username=(EditText)findViewById(R.id.txt_username);
            Password=(EditText)findViewById(R.id.txt_password);
            signup=(Button) findViewById((R.id.button_signup));
            signup.setOnClickListener(this);
        }

    @Override
    public void onClick(View view) {
        String username=Username.getText().toString();
        String password=Password.getText().toString();
        if(validatePassword(password)){
            Bundle bundle=new Bundle();
            bundle.putString("rnsit",username);
            bundle.putString("Lab@2020",password);
            Intent it=new Intent(this,login.class);
            it.putExtra("data",bundle);
            startActivity(it);
        }
        Toast.makeText(getBaseContext(),"Invalid Password",
                Toast.LENGTH_LONG).show();
    }

    private boolean validatePassword(String password) {
        Pattern pattern=Pattern.compile(regularExpression);
        Matcher matcher=pattern.matcher(password);
        return matcher.matches();
    }

}
```

wallpaper

```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:gravity="center" tools:context=".MainActivity">
    <Button
        android:id="@+id/btn_start_change_wallpaper"
        android:layout_width="wrap_content"
```

```xml
        android:layout_height="wrap_content"
        android:text="Click here to Change Wallpaper" />
</LinearLayout>
```

```java
package com.example.wallpapers;
import androidx.appcompat.app.AppCompatActivity;
import android.app.WallpaperManager;
import android.graphics.BitmapFactory;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import java.util.Random;
import java.util.Timer;
import java.util.TimerTask;
public class MainActivity extends AppCompatActivity implements
        View.OnClickListener {
    Button btnChangeWallpaper;
    boolean running;
    int[] imagesArray=new int[]
                {
                    R.drawable.img1,
                    R.drawable.img2,
                    R.drawable.img3,
                    R.drawable.img4,
                    R.drawable.img5
                };
    int i=0;
    @Override
    protected void onCreate(Bundle savedInstanceState)
    {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        btnChangeWallpaper=(Button)
                findViewById(R.id.btn_start_change_wallpaper);
        btnChangeWallpaper.setOnClickListener(this);
    }
    @Override
    public void onClick(View view)
    {
        if(!running)
        {
            new Timer().schedule (new MyTimer(),0,3000);
            running=true;
        }
    }
    class MyTimer extends TimerTask {
        public void run() {
            try {
                WallpaperManager wallpaperManager
=WallpaperManager.getInstance(getBaseContext());
                Random random=new Random();


wallpaperManager.setBitmap(BitmapFactory.decodeResource(getResources(),imag
esArray[random.nextInt(5)]));
                i++;
            } catch (Exception e)
            { }
```

```
            }
    } }
```

```xml
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    package="com.example.wallpapers">

    <uses-permission android:name="android.permission.SET_WALLPAPER" />
    <application
        android:allowBackup="true"
        android:icon="@mipmap/ic_launcher"
        android:label="@string/app_name"
        android:roundIcon="@mipmap/ic_launcher_round"
        android:supportsRtl="true"
        android:theme="@style/Theme.Wallpapers">
        <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>
```