```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"
```

```xml
        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"

    android:paddingTop="25dp"
```

```xml
        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" />
```

```xml
    </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"
        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"
```

```xml
        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"
```

```xml
    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

    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"
```

```xml
    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"
```

```xml
        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"

        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"
```

```xml
        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" />
```

```xml
<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"
    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"
```

```xml
        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>


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

        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);
```

```java
        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("");

    }
```

```java
@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))
        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("-");
```

```java
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("+"))
```

```java
        {
            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("-");
            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)
    {
```

```java
        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"
```

```xml
        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_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" />
```

```xml
<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" />
```

```xml
    <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
<?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"
```

```xml
        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"
```

```xml
            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_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"
```

```xml
        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)
                {
```

```java
                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;

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,}$";
```

```java
@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"
        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;
```

```java
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);
```

```java
            running=true;
        }
    }
    class MyTimer extends TimerTask {
        public void run() {
            try {
                WallpaperManager wallpaperManager =WallpaperManager.getInstance(getBaseContext());
                Random random=new Random();


wallpaperManager.setBitmap(BitmapFactory.decodeResource(getResources(),imagesArray[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
```

```xml
        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>
```