

MOBILE APPLICATION PROGRAMMING LAB

PRACTICAL-2

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BATCH: A4

AIM: Design the User Interface for the Login page using the following Layout.

1. Nested Linear Layout
2. Relative Layout
3. Constraint Layout

NESTED LINEAR LAYOUT

```
<?xml version="1.0" encoding="utf-8"?>
<android.widget.LinearLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical"
    android:weightSum="1.0">

    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="720dp"
        android:layout_weight="0.9"
        android:orientation="vertical"
        android:weightSum="0.9">

        <TextView
            android:id="@+id/textView1"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:text="Login Page"
            android:textAlignment="center"
            android:textColor="@color/black"
            android:textSize="30dp"
            android:textStyle="bold" />

        <TextView
            android:id="@+id/textView2"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_marginTop="20dp"
            android:text="Username"
```

```

        android:textColor="@color/black"
        android:textSize="25dp"
        android:textStyle="bold" />

<EditText
    android:id="@+id/name"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_marginTop="-3dp"
    android:hint="RCOEM"
    android:paddingTop="10dp" />

<TextView
    android:id="@+id/textView3"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginTop="30dp"
    android:paddingTop="20dp"
    android:text="Password"
    android:textColor="@color/black"
    android:textSize="25dp"
    android:textStyle="bold" />

<EditText
    android:id="@+id/password"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_marginTop="-3dp"
    android:inputType="textPassword"
    android:paddingTop="10dp" />

<LinearLayout
    android:layout_width="match_parent"
    android:layout_height="60dp"
    android:layout_marginTop="50dp"
    android:orientation="horizontal"
    android:weightSum="1.0">

    <Button
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_margin="20px"
        android:layout_weight="0.4"
        android:text="Login"
        android:textSize="20dp" />

    <Button
        android:layout_width="200dp"
        android:layout_height="wrap_content"
        android:layout_margin="20px"
        android:layout_weight="0.5"
        android:text="Forgot Password"
        android:textSize="20dp" />
</LinearLayout>

<Button
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_margin="20px"
    android:text="New User"
    android:textSize="20dp" />

```

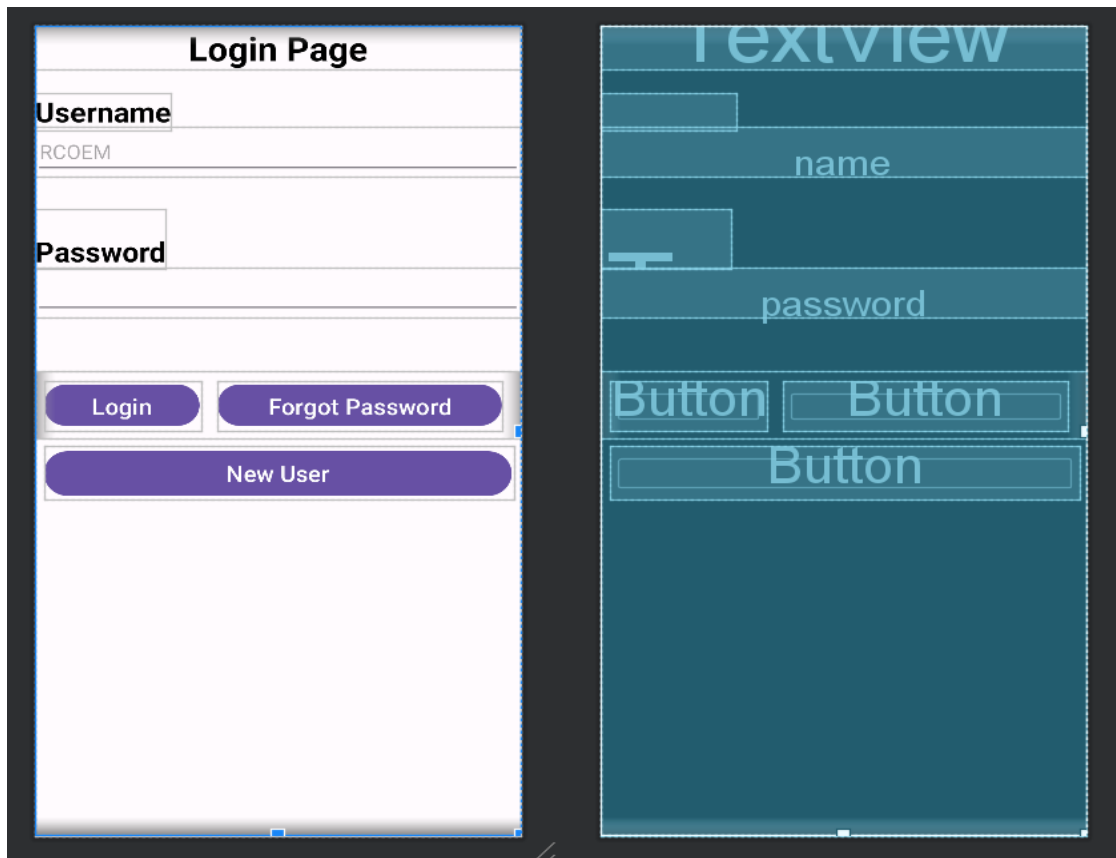
```

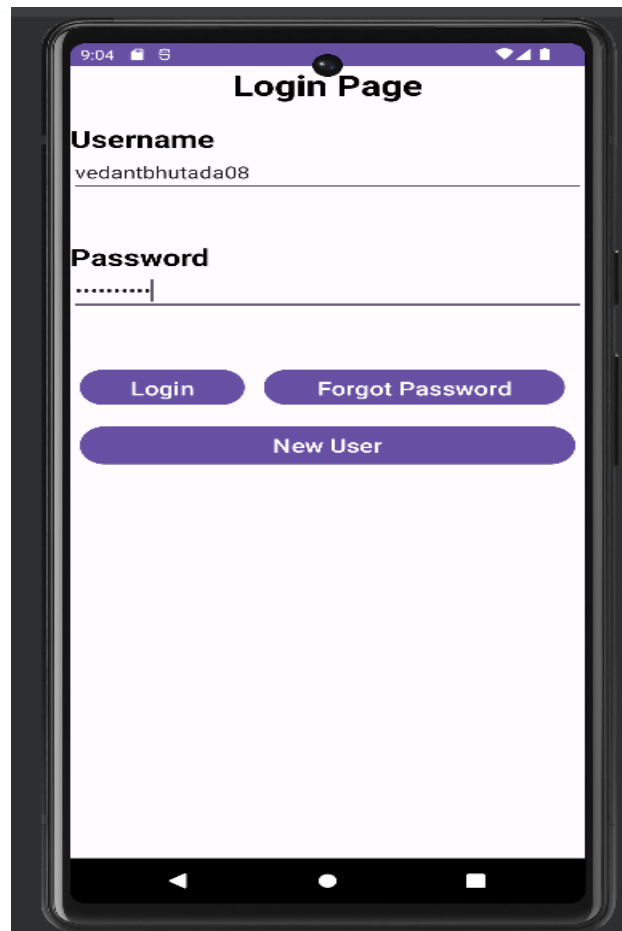
</LinearLayout>
<LinearLayout
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_weight="0.1"
    android:gravity="bottom"
    android:orientation="vertical">

    </LinearLayout>
</android.widget.LinearLayout>

```

OUTPUT





RELATIVE LAYOUT

```
<?xml version="1.0" encoding="utf-8"?>
<android.widget.RelativeLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="match_parent">
    <TextView
        android:id="@+id/textView1"
        android:layout_width="match_parent"
        android:layout_height="130dp"
        android:text="Login Page"
        android:textSize="30dp"
        android:textStyle="bold"
        android:textColor="@color/black"
        android:textAlignment="center"
        android:paddingTop="70dp"
        android:paddingBottom="20dp"
    />
    <TextView
        android:layout_below="@id/textView1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Username"
```

```

        android:layout_marginTop="30dp"
        android:textStyle="bold"
        android:textColor="@color/black"
        android:textSize="25dp"
        android:id="@+id/textView2"
    />
    <EditText
        android:id="@+id/name"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_below="@id/textView2"
        android:layout_marginTop="-3dp"
        android:hint="RCOEM"
        android:paddingTop="10dp"
    />
    <TextView
        android:layout_below="@id/name"
        android:layout_width="wrap_content"
        android:layout_marginTop="30dp"
        android:layout_height="wrap_content"
        android:text="Password"
        android:textStyle="bold"
        android:textColor="@color/black"
        android:textSize="25dp"
        android:paddingTop="20dp"
        android:id="@+id/textView3"
    />
    <EditText
        android:id="@+id/password"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_below="@id/textView3"
        android:layout_marginTop="-3dp"
        android:paddingTop="10dp"
        android:inputType="textPassword"
    />

    <Button
        android:id="@+id/btn1"
        android:layout_width="100dp"
        android:layout_height="wrap_content"
        android:layout_below="@id/password"
        android:layout_marginLeft="22dp"
        android:layout_marginTop="23dp"
        android:text="Login"
        android:textSize="20dp" />

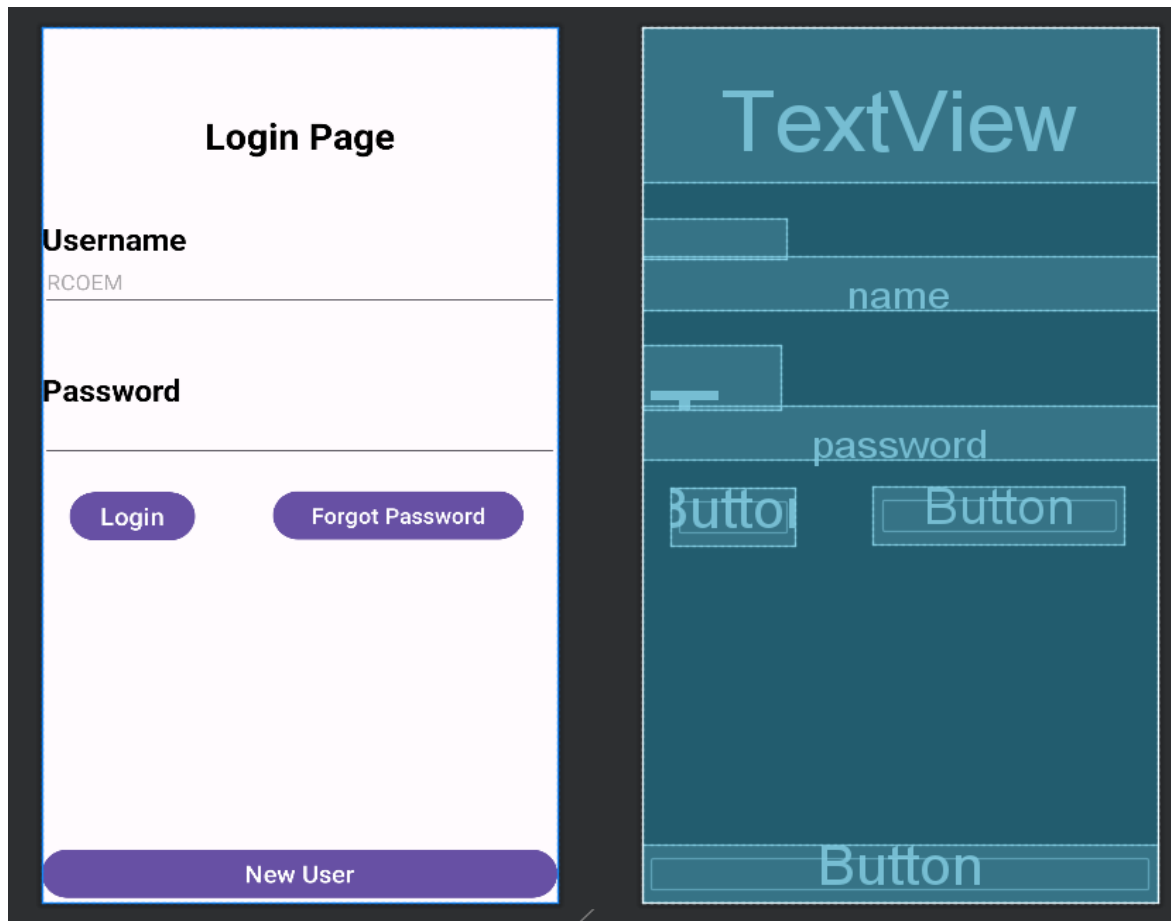
    <Button
        android:id="@+id/btn2"
        android:layout_width="200dp"
        android:layout_height="wrap_content"
        android:layout_below="@id/password"
        android:layout_marginLeft="62dp"
        android:layout_marginTop="22dp"
        android:layout_toRightOf="@id/btn1"
        android:text="Forgot Password"
        android:textSize="18dp" />

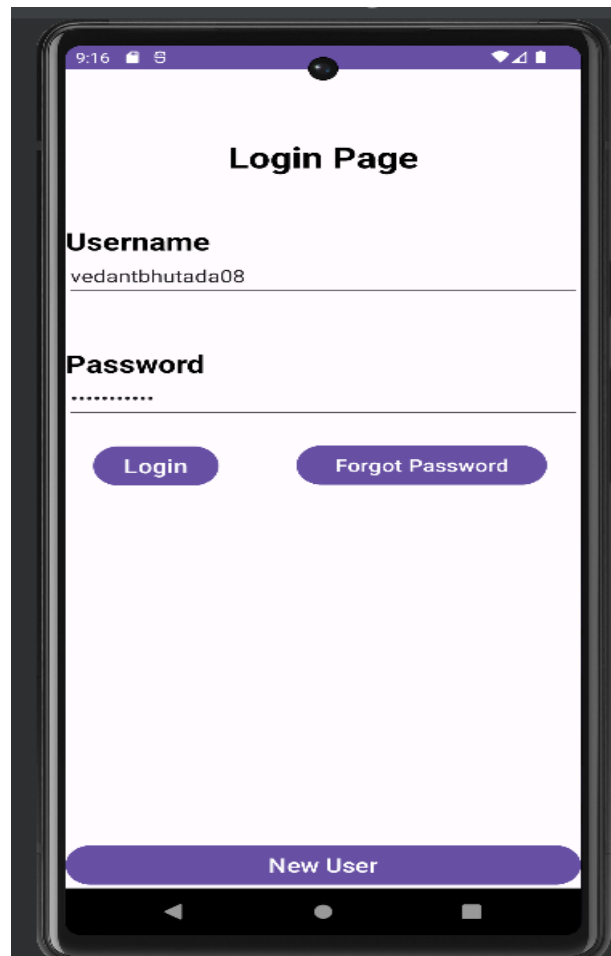
    <Button
        android:layout_width="match_parent"
        android:layout_height="wrap_content"

```

```
        android:text="New User"  
        android:textSize="20dp"  
        android:layout_alignParentBottom="true"  
        android:id="@+id/btn3"  
    />  
</android.widget.RelativeLayout>
```

OUTPUT





CONSTRAINT LAYOUT

```
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    xmlns:tools="http://schemas.android.com/tools"
    xmlns:app="http://schemas.android.com/apk/res-auto">

    <Button
        android:id="@+id/btn1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginTop="28dp"
        android:layout_marginEnd="12dp"
        android:text="Login"
        android:textSize="25dp"
        app:layout_constraintBottom_toTopOf="@+id/button"
        app:layout_constraintEnd_toStartOf="@+id/button2"
        app:layout_constraintTop_toBottomOf="@+id/editTextText2"
        app:layout_constraintVertical_bias="0.0"
        tools:ignore="missingConstraints" />
```

```

<Button
    android:id="@+id/button2"
    android:layout_width="260dp"
    android:layout_height="56dp"
    android:layout_marginTop="28dp"
    android:layout_marginEnd="16dp"
    android:text="Forget Password"
    android:textSize="25dp"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/editTextText2"
    tools:ignore="missingConstraints" />

<TextView
    android:id="@+id/textView"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginTop="28dp"
    android:fontFamily="sans-serif"
    android:text="Login Page"
    android:textSize="40dp"
    android:textStyle="bold"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.497"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent" />
<EditText
    android:id="@+id/editTextText"
    android:layout_width="381dp"
    android:layout_height="41dp"
    android:layout_marginTop="68dp"
    android:ems="10"
    android:hint="RCOEM"
    android:inputType="text"
    app:layout_constraintTop_toBottomOf="@+id/textView"
    tools:layout_editor_absoluteX="30dp" />
<TextView
    android:id="@+id/textView2"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Username"
    android:textSize="24sp"
    android:textStyle="bold"
    app:layout_constraintBottom_toTopOf="@+id/editTextText"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.098"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/textView"
    app:layout_constraintVertical_bias="0.6" />
<TextView
    android:id="@+id/textView3"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginTop="36dp"
    android:text="Password"
    android:textSize="24sp"
    android:textStyle="bold"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.105"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/editTextText" />
<EditText

```

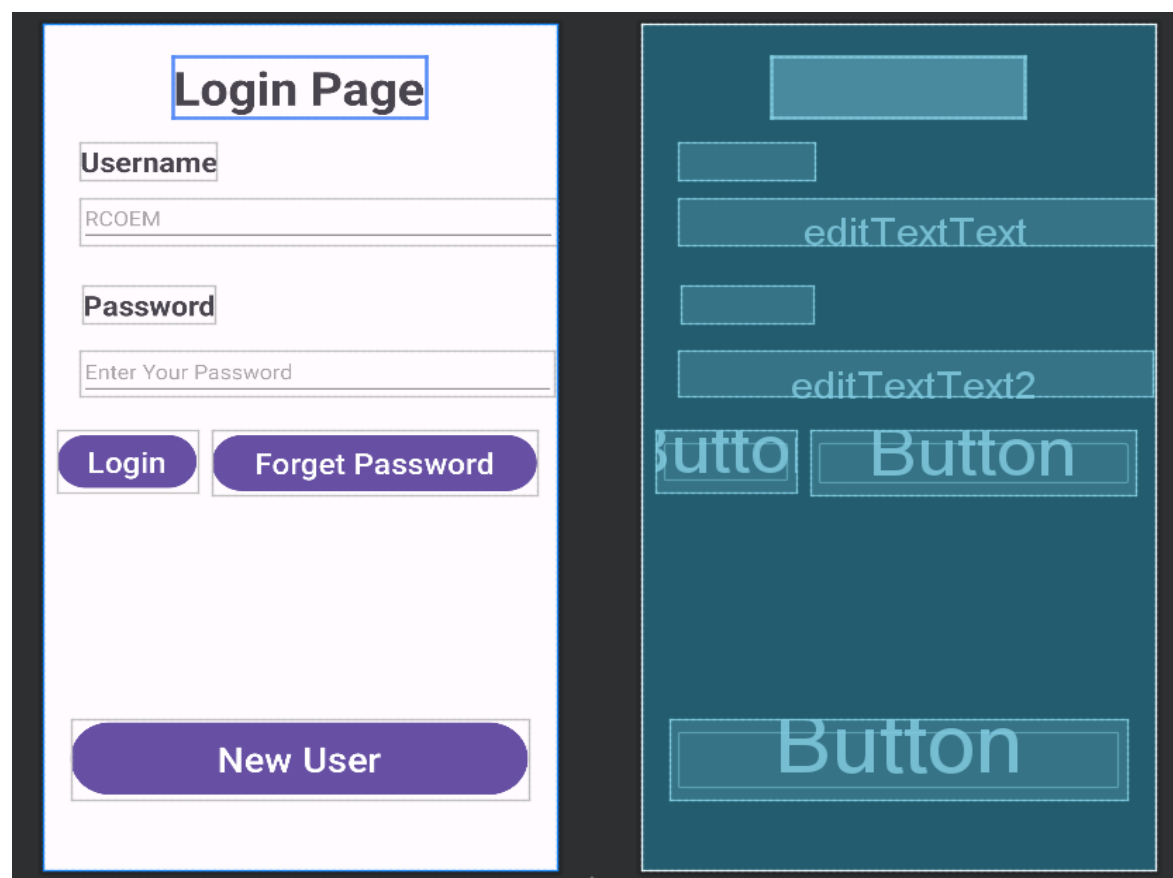


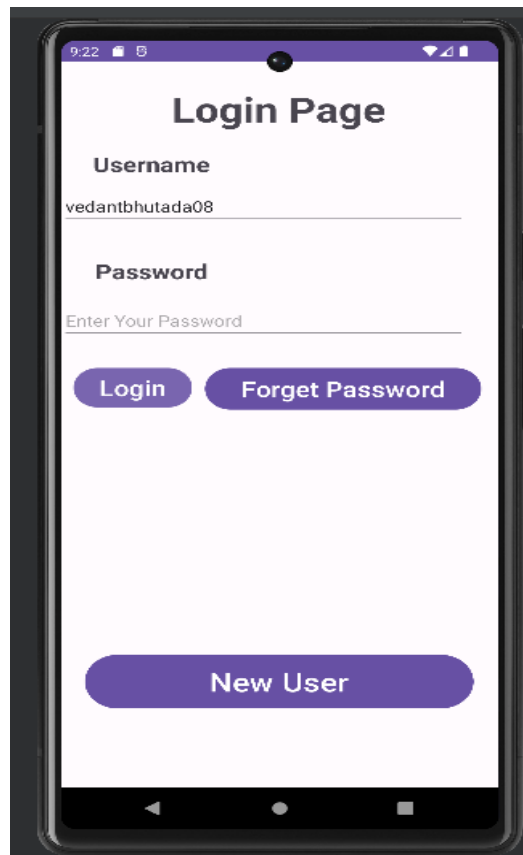
```

        android:id="@+id/editTextText2"
        android:layout_width="380dp"
        android:layout_height="40dp"
        android:layout_marginTop="24dp"
        android:ems="10"
        android:hint="Enter Your Password"
        android:inputType="text"
        app:layout_constraintTop_toBottomOf="@+id/textView3"
        tools:layout_editor_absoluteX="30dp" />
<Button
    android:id="@+id/button"
    android:layout_width="366dp"
    android:layout_height="70dp"
    android:text="New User"
    android:textSize="30dp"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.488"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/button2"
    app:layout_constraintVertical_bias="0.759" />
</androidx.constraintlayout.widget.ConstraintLayout>

```

OUTPUT





JAVA CODE:

```
package com.example.myapplication;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;
import android.app.Activity;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.TextView;
import android.widget.CheckBox;
import android.widget.EditText;
import android.widget.RadioButton;
import android.widget.RadioGroup;
import android.widget.TextView;

public class MainActivity extends AppCompatActivity {
    private EditText usernameEditText, passwordEditText;
    private Button loginButton, forgotPasswordButton, newUserTextView;
    private CheckBox checkBox;
    private RadioGroup radioGroup;
    private RadioButton radioButton1, radioButton2;
    private TextView messageTextView;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
```

```

super.onCreate(savedInstanceState);
setContentView(R.layout.activity_main);

// Initialize views
usernameEditText = findViewById(R.id.name);
passwordEditText = findViewById(R.id.password);
loginButton = findViewById(R.id.btn1);
forgotPasswordButton = findViewById(R.id.btn2);
newUserTextView = findViewById(R.id.btn3);
messageTextView = findViewById(R.id.messageTextView);
checkBox = findViewById(R.id.checkBox);
radioGroup = findViewById(R.id.radioGroup);
radioButton1 = findViewById(R.id.radioButton1);
radioButton2 = findViewById(R.id.radioButton2);

loginButton.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View view) {
        String username = usernameEditText.getText().toString();
        String password = passwordEditText.getText().toString();

        // You can perform authentication here, e.g., check if
username and password are valid
        if (isValidUser(username, password)) {
            // Successful login, update the messageTextView
            messageTextView.setText("Login successful");
        } else {
            // Failed login, update the messageTextView with an
error message
            messageTextView.setText("Invalid username or
password");
        }
    }
});

forgotPasswordButton.setOnClickListener(new View.OnClickListener()
{
    @Override
    public void onClick(View view) {
        // Handle forgot password button click
        messageTextView.setText("Forgot password clicked");
    }
});

newUserTextView.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View view) {
        // Handle new user button click
        messageTextView.setText("New user clicked");
    }
});

checkBox.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View view) {
        if (checkBox.isChecked()) {
            messageTextView.setText("I agree is checked");
        } else {
            messageTextView.setText("I agree is not checked");
        }
    }
}

```

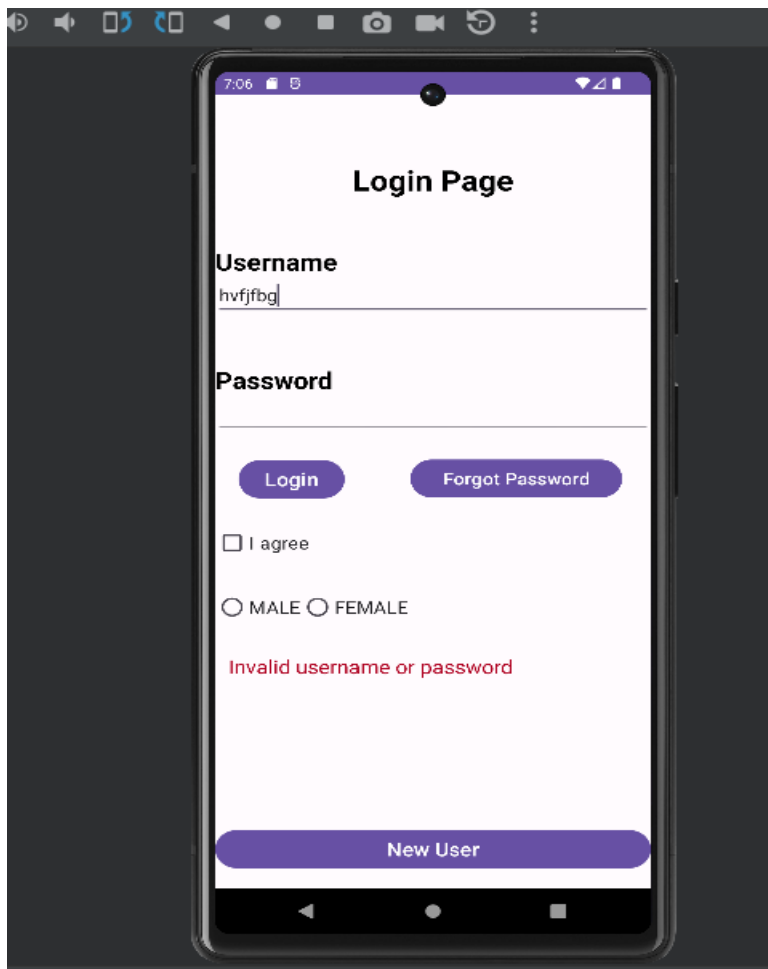
```

    });

    radioGroup.setOnCheckedChangeListener(new
RadioGroup.OnCheckedChangeListener() {
    @Override
    public void onCheckedChanged(RadioGroup group, int checkedId) {
        if (checkedId == R.id.radioButton1) {
            messageTextView.setText("Selected: MALE");
        } else if (checkedId == R.id.radioButton2) {
            messageTextView.setText("Selected: FEMALE");
        }
    }
    });
}

private boolean isValidUser(String username, String password) {
    return username.equals("vedant") && password.equals("pass123");
}
}

```



CONCLUSION: In this practical we successfully implemented different Layout Designs in Android Studio.