

PRACTICAL: 5

AIM: Create a login application with following features:

1. Successful Login message in TextView with Green background if Username & password is correct
2. Failure message in TextView with Red background if Username or password is incorrect.
3. Disable Login Button after three wrong login attempts.
4. Close application if user selects Cancel Button.

THEORY: About elements used:

TextView: The Android TextView component is a View subclass which is capable of showing text. Being a subclass of View the TextView component can be used in your Android app's GUI inside a ViewGroup , or as the content view of an activity.

EditText: A user interface element for entering and modifying text. When you define an edit text widget, you must specify the R.styleable.TextView_inputType attribute. For example, for plain text input set inputType to "text".

Button: A user interface element the user can tap or click to perform an action.

CODE:

```
//activity_main.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:id="@+id/Layout1"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity">

    <EditText
        android:id="@+id/UserName"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginTop="212dp"
        android:ems="10"
        android:hint="User Name"
        android:inputType="textPersonName"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.747"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.0" />

    <EditText
```

```
android:id="@+id/Password"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_marginTop="44dp"
android:ems="10"
android:hint="Password"
android:inputType="textPassword"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="0.747"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toBottomOf="@+id/UserName"
app:layout_constraintVertical_bias="0.0" />
```

<Button

```
android:id="@+id/Login"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_marginTop="44dp"
android:text="Login"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toStartOf="@+id/Cancel"
app:layout_constraintHorizontal_bias="0.58"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent"
app:layout_constraintVertical_bias="0.0" />
```

<Button

```
android:id="@+id/Cancel"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_marginTop="96dp"
android:layout_marginEnd="108dp"
android:layout_marginRight="108dp"
android:text="Cancel"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="1.0"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toBottomOf="@+id/Password"
app:layout_constraintVertical_bias="0.008" />
```

<TextView

```
android:id="@+id/OutPut"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_marginBottom="140dp"
android:textSize="20sp"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="0.498"
```

```
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent"
app:layout_constraintVertical_bias="1.0" />

<TextView
    android:id="@+id/textView"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginTop="96dp"
    android:paddingHorizontal="12dp"
    android:paddingVertical="12dp"
    android:text="Enter Credentials:"
    android:textSize="25dp"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.428"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent" />

<TextView
    android:id="@+id/textView2"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginTop="76dp"
    android:text="Username:"
    android:textSize="17dp"
    app:layout_constraintEnd_toStartOf="@+id/UserName"
    app:layout_constraintHorizontal_bias="0.666"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/textView" />

<TextView
    android:id="@+id/textView3"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginTop="68dp"
    android:text="Password:"
    android:textSize="17dp"
    app:layout_constraintEnd_toStartOf="@+id/Password"
    app:layout_constraintHorizontal_bias="0.676"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/textView2" />
</androidx.constraintlayout.widget.ConstraintLayout>

//MainActivity.java
package com.example.pr5_17it005;

import androidx.appcompat.app.AppCompatActivity;

import android.graphics.Color;
import android.os.Bundle;
import android.view.View;
```

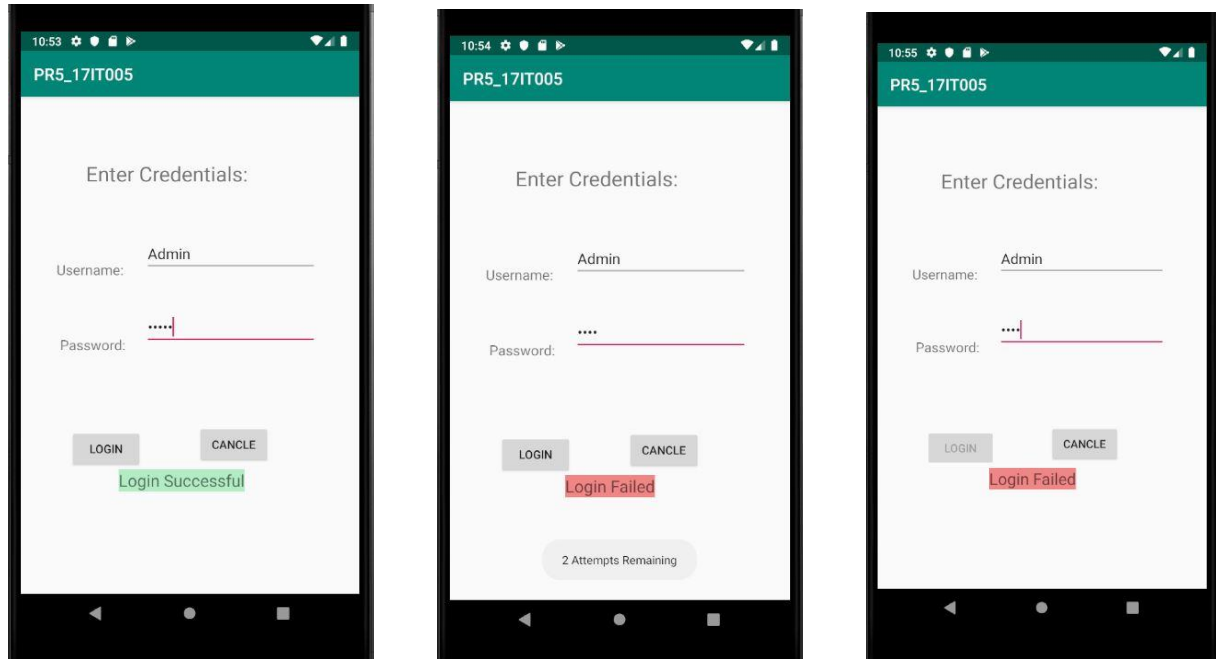
```

import android.widget.Button;
import android.widget.EditText;
import android.widget.TextView;
import android.widget.Toast;

public class MainActivity extends AppCompatActivity {
    Button Login;
    Button Cancel;
    EditText UserName;
    EditText Password;
    TextView OutPut;
    int Count =3;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        Login = (Button)findViewById(R.id.Login);
        Cancel = (Button)findViewById(R.id.Cancel);
        UserName = (EditText)findViewById(R.id.UserName);
        Password = (EditText)findViewById(R.id.Password);
        OutPut = (TextView)findViewById(R.id.OutPut);

        Login.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                if (UserName.getText().toString().equals("Admin") &&
Password.getText().toString().equals("admin")) {
                    OutPut.setText("Login Successful");
                    OutPut.setBackgroundColor(Color.rgb(178, 237, 197));
                } else {
                    if (Count > 0) {
                        OutPut.setText("Login Failed");
                        OutPut.setBackgroundColor(Color.rgb(240, 134, 134));
                        Count--;
                        Toast.makeText(getApplicationContext(), Integer.toString(Count) + " Attempts
Remaining", Toast.LENGTH_LONG).show();
                    } else {
                        Login.setEnabled(false);
                    }
                }
            }
        });
        Cancel.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                finish();
                System.exit(0);
            }
        });
    }
}

```

OUTPUT:

Here, if you enter wrong credentials for 3 times login button is disabled as shown in figure3, and you get a popup for every wrong login as shown in figure2, also on successful login you get a popup with a different background.

LATEST APPLICATIONS: Now-a-days mostly every website, web application or mobile application (android and ios) use this functionality for authentication and verification.

LEARNING OUTCOME: In this practical, making a toast on every wrong login, using `setEnabled()` method to disable login button and using `System.exit()` method to exit application on Cancel button are used.