

PART – A

Experiment-No:3

Create a SIGN Up activity with Username and Password. Validation of password should happen

based on the following rules:

- Password should contain uppercase and lowercase letters.
- Password should contain letters and numbers.
- Password should contain special characters.
- Minimum length of the password (the default value is 8).

On successful **SIGN UP** proceed to the next Login activity. Here the user should **SIGN IN** using the Username and Password created during signup activity. If the Username and Password are matched then navigate to the next activity which displays a message saying "Successful Login" or else display a toast message saying "Login Failed". The user is given only two attempts and after that display a toast message saying "Failed Login Attempts" and disable the SIGN IN button. Use Bundle to transfer information from one activity to another.

Components Used:

- **Edit Text:** To get User input like username and password.
- **Buttons:** To Login, Signup, Logout.

Special classes and Functions:

- **Bundle:** Bundles are generally used for passing data from one activity to another.
- **Pattern:** Pattern used to validate user password with regex

XML Code:

Signup:

```
<?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"
android:background="#FFEB3B"
tools:context=".MainActivity">

<EditText
    android:id="@+id/username"
```

```
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:ems="10"
    android:hint="Username"
    android:inputType="textPersonName"
    app:layout_constraintBottom_toTopOf="@+id/password"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.497"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.831" />
```

<EditText

```
    android:id="@+id/password"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginBottom="356dp"
    android:ems="10"
    android:hint="Password"
    android:inputType="textPassword"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.497"
    app:layout_constraintStart_toStartOf="parent" />
```

<Button

```
    android:id="@+id/signup"
    android:layout_width="144dp"
    android:layout_height="73dp"
    android:text="Signup"
    android:textColor="#F9FAFB"
    app:backgroundTint="#EA1010"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.498"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/password"
    app:layout_constraintVertical_bias="0.303" />
```

<TextView

```
    android:id="@+id/textView"
    android:layout_width="219dp"
    android:layout_height="57dp"
    android:text="SIGNUP"
    android:textAlignment="center"
    android:textColor="#3F51B5"
    android:textSize="36sp"
```

```

        android:textStyle="bold"
        app:layout_constraintBottom_toTopOf="@+id/username"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />
</androidx.constraintlayout.widget.ConstraintLayout>

```

Login:

```

<?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"
android:background="#FFEB3B"
tools:context=".MainActivity">

    <EditText
        android:id="@+id/username"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:ems="10"
        android:hint="Username"
        android:inputType="textPersonName"
        app:layout_constraintBottom_toTopOf="@+id/password"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.497"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.838" />

    <EditText
        android:id="@+id/password"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginBottom="356dp"
        android:ems="10"
        android:hint="Password"
        android:inputType="textPassword"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.497"
        app:layout_constraintStart_toStartOf="parent" />

    <Button
        android:id="@+id/login"

```

```

        android:layout_width="144dp"
        android:layout_height="73dp"
        android:text="Login"
        android:textColor="#F9FAFB"
        app:backgroundTint="#EA1010"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.464"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/password"
        app:layout_constraintVertical_bias="0.265" />

<TextView
    android:id="@+id/textView"
    android:layout_width="219dp"
    android:layout_height="57dp"
    android:text="LOGIN"
    android:textAlignment="center"
    android:textColor="#3F51B5"
    android:textSize="36sp"
    android:textStyle="bold"
    app:layout_constraintBottom_toTopOf="@+id/username"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent" />
</androidx.constraintlayout.widget.ConstraintLayout>

```

After Login:

```

<?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"
    android:background="#FFEB3B"
    tools:context=".loginSuccess">

    <TextView
        android:id="@+id/res"
        android:layout_width="262dp"
        android:layout_height="97dp"
        android:layout_marginTop="244dp"
        android:text="Login Success"
        android:textAlignment="center"
        android:textColor="#673AB7"
        android:textSize="30sp"

```

```

        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.496"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

<Button
    android:id="@+id/logout"
    android:layout_width="186dp"
    android:layout_height="68dp"
    android:text="Logout"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/res"
    app:layout_constraintVertical_bias="0.207" />
</androidx.constraintlayout.widget.ConstraintLayout>

```

Java Code:

For Signup:

```

package com.keshavrkaranth.signupandlogin;

import androidx.appcompat.app.AppCompatActivity;

import android.content.Intent;
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 {
    private Button signup;
    private EditText username,password;
    private String uname,psswd;
    private static final String password_pattern = "^(?=.*\\d)(?=.*[a-z])(?=.*[A-Z])(?=.*[a-zA-Z]).{8,}$";

    Pattern passPatten = Pattern.compile(password_pattern);

    @Override
    protected void onCreate(Bundle savedInstanceState) {

```

```

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

signup = findViewById(R.id.signup);
username = findViewById(R.id.username);
password = findViewById(R.id.password);

signup.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View view) {
        uname = username.getText().toString();
        psswd = password.getText().toString();

        if(isValid()){
            Intent intent = new Intent(getApplicationContext(),login.class);
            Bundle bundle = new Bundle();
            bundle.putString("username",uname);
            bundle.putString("password",psswd);
            intent.putExtras(bundle);
            Toast.makeText(MainActivity.this,"Signup
Success",Toast.LENGTH_LONG).show();
            startActivity(intent);
        }
    }
});

}

private boolean isValid(){
    if(!passPatten.matcher(psswd).matches()) {
        Toast.makeText(this,"Password should contain upper and lowe case and special
character sequence", Toast.LENGTH_LONG).show();
        return false;
    }
    else{
        return true;
    }
}
}

```

For Login:

```

package com.keshavrkaranth.signupandlogin;

import androidx.appcompat.app.AppCompatActivity;

import android.content.Intent;
import android.os.Bundle;

```

```
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.Toast;

public class login extends AppCompatActivity {
    private Button logibBtn;
    private EditText username,password;
    private String usrname,psswd;
    private int counter=0;

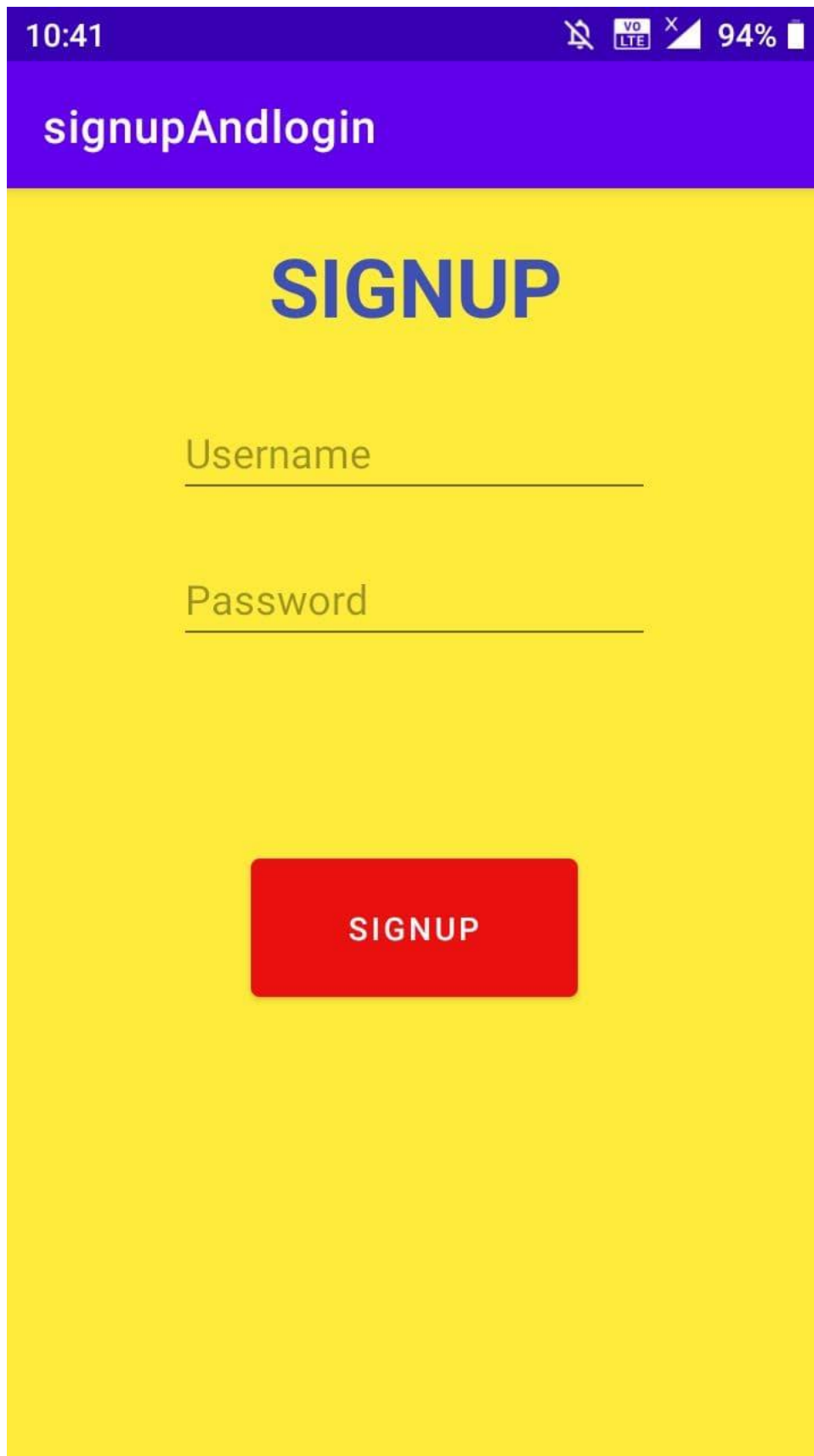
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.login);
        logibBtn = findViewById(R.id.login);
        username = findViewById(R.id.username);
        password = findViewById(R.id.password);
        Bundle bundle = getIntent().getExtras();
        usrname = bundle.getString("username");
        psswd = bundle.getString("password");
        bundle.putString("username",usrname);
        Intent intent = new Intent(getApplicationContext(),loginSuccess.class);
        intent.putExtras(bundle);

        logibBtn.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                if (counter!=2){
                    System.out.println("Button tapped");
                    if(username.getText().toString().equals(usrname) &&
password.getText().toString().equals(psswd)){
                        Toast.makeText(login.this,"Login Success",Toast.LENGTH_LONG).show();
                        startActivity(intent);
                    }
                    else {
                        Toast.makeText(login.this,"Invalid
Credentials",Toast.LENGTH_LONG).show();
                        counter++;
                        username.setText(null);
                        password.setText(null);
                    }
                }else{
                    Toast.makeText(login.this,"Maximum reach
reached",Toast.LENGTH_LONG).show();
                    logibBtn.setBackgroundColor(R.color.black);
                    logibBtn.setEnabled(false);
                }
            }
        });
    }
}
```

```
    }  
    }  
    });  
  
    }  
}
```

Login Success:

```
package com.keshavrkaranth.signupandlogin;  
  
import androidx.appcompat.app.AppCompatActivity;  
  
import android.content.Intent;  
import android.os.Bundle;  
import android.view.View;  
import android.widget.Button;  
import android.widget.TextView;  
import android.widget.Toast;  
  
public class loginSuccess extends AppCompatActivity {  
    private Button logout;  
    @Override  
    protected void onCreate(Bundle savedInstanceState) {  
        super.onCreate(savedInstanceState);  
        setContentView(R.layout.activity_login_success);  
  
        logout = findViewById(R.id.logout);  
        logout.setOnClickListener(new View.OnClickListener() {  
            @Override  
            public void onClick(View view) {  
                Toast.makeText(loginSuccess.this, "Logout  
Success", Toast.LENGTH_LONG).show();  
                onBackPressed();  
            }  
        });  
    }  
}
```


Sample Output:

10:41

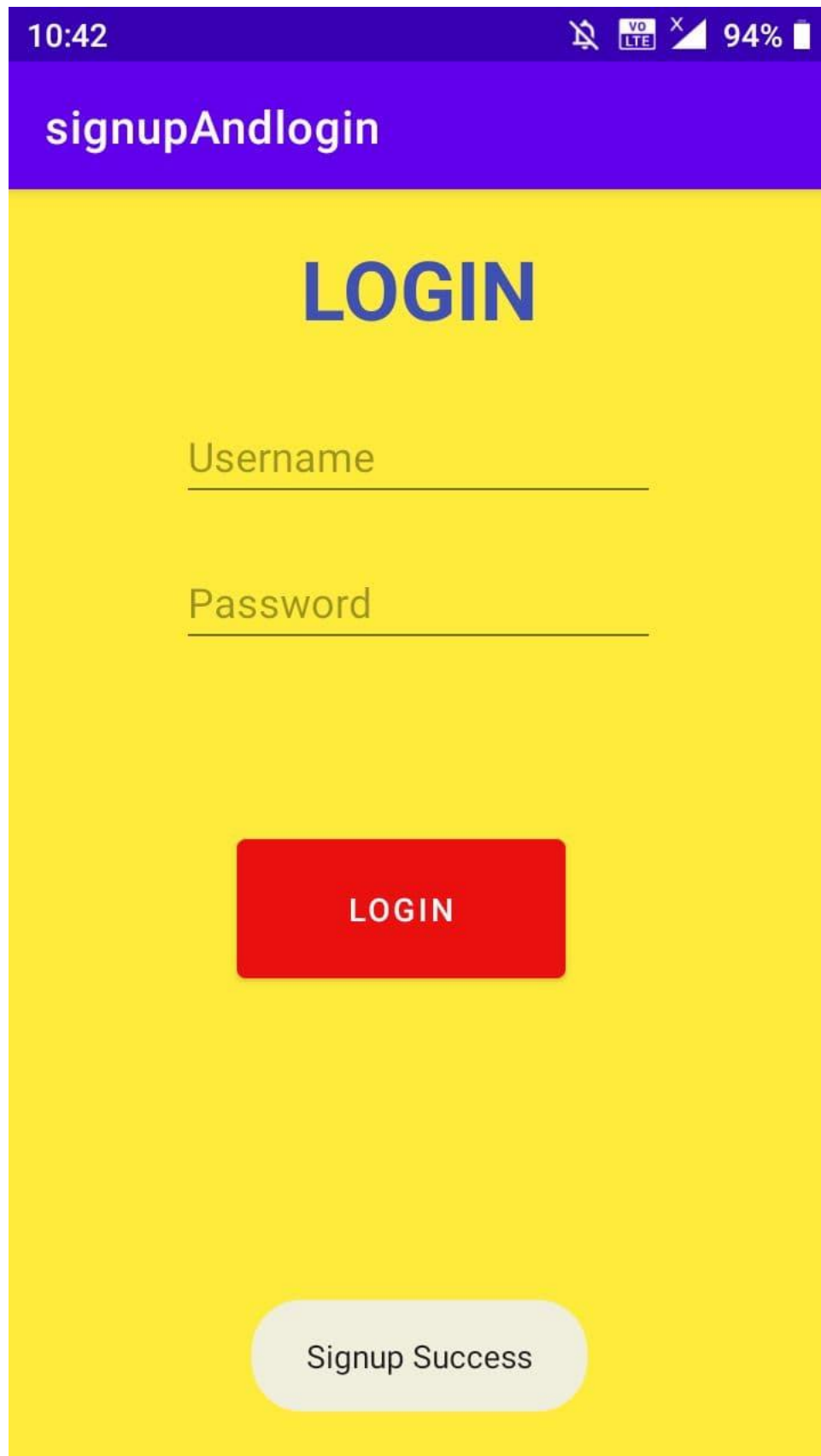
signupAndlogin

SIGNUP

Username

Password

SIGNUP



A mobile application login screen mockup. At the top is a dark blue status bar with the time '10:42', a mute icon, 'VO LTE', a signal strength indicator, and a battery level of '94%'. Below this is a purple header bar with the text 'signupAndlogin' in white. The main background is yellow. In the center, the word 'LOGIN' is written in large, bold, blue capital letters. Below it are two input fields: 'Username' and 'Password', each with a thin grey underline. Further down is a red rectangular button with the word 'LOGIN' in white capital letters. At the bottom, there is a light grey rounded rectangular button with the text 'Signup Success' in black.

10:42

VO LTE 94%

signupAndlogin

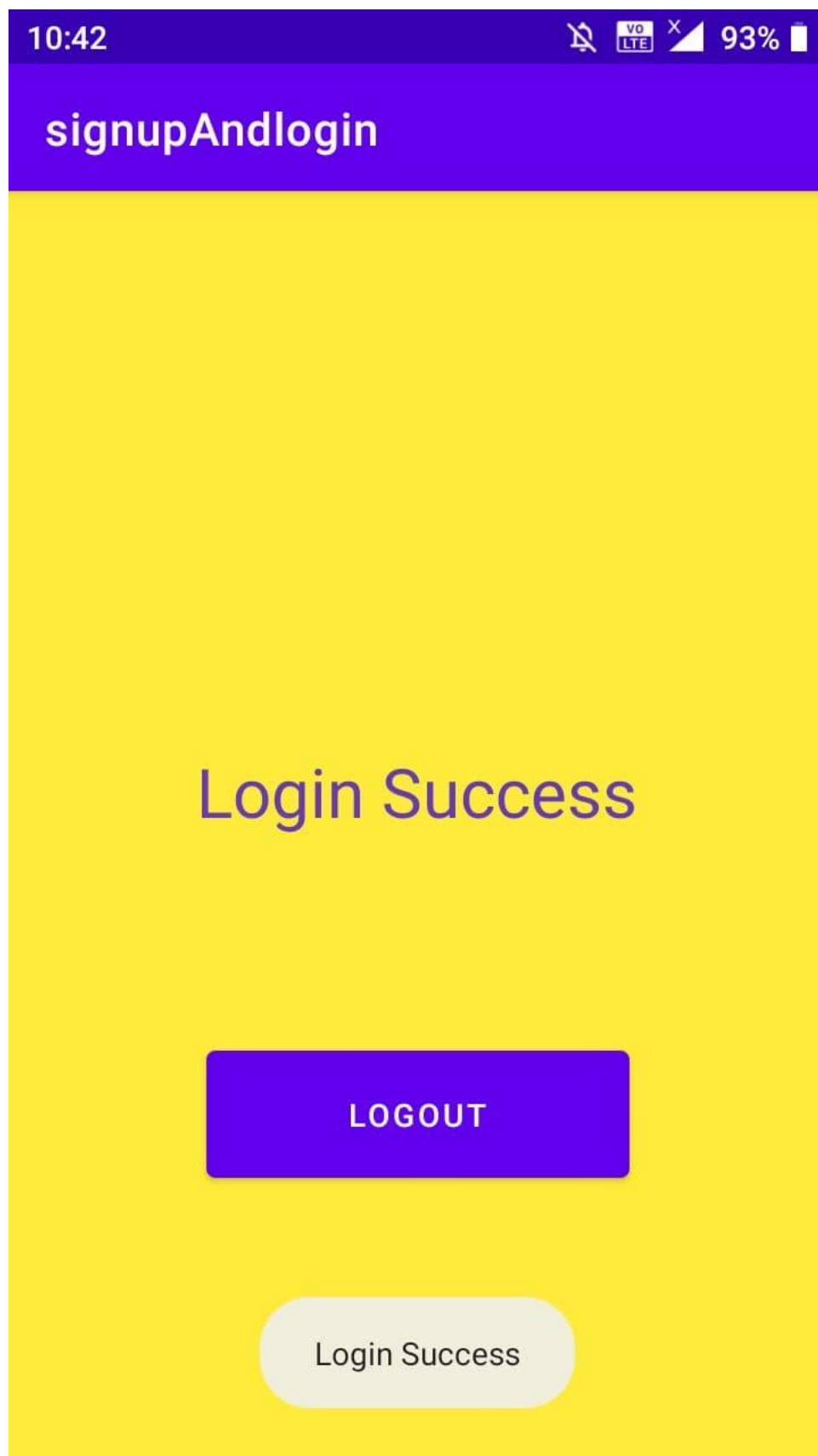
LOGIN

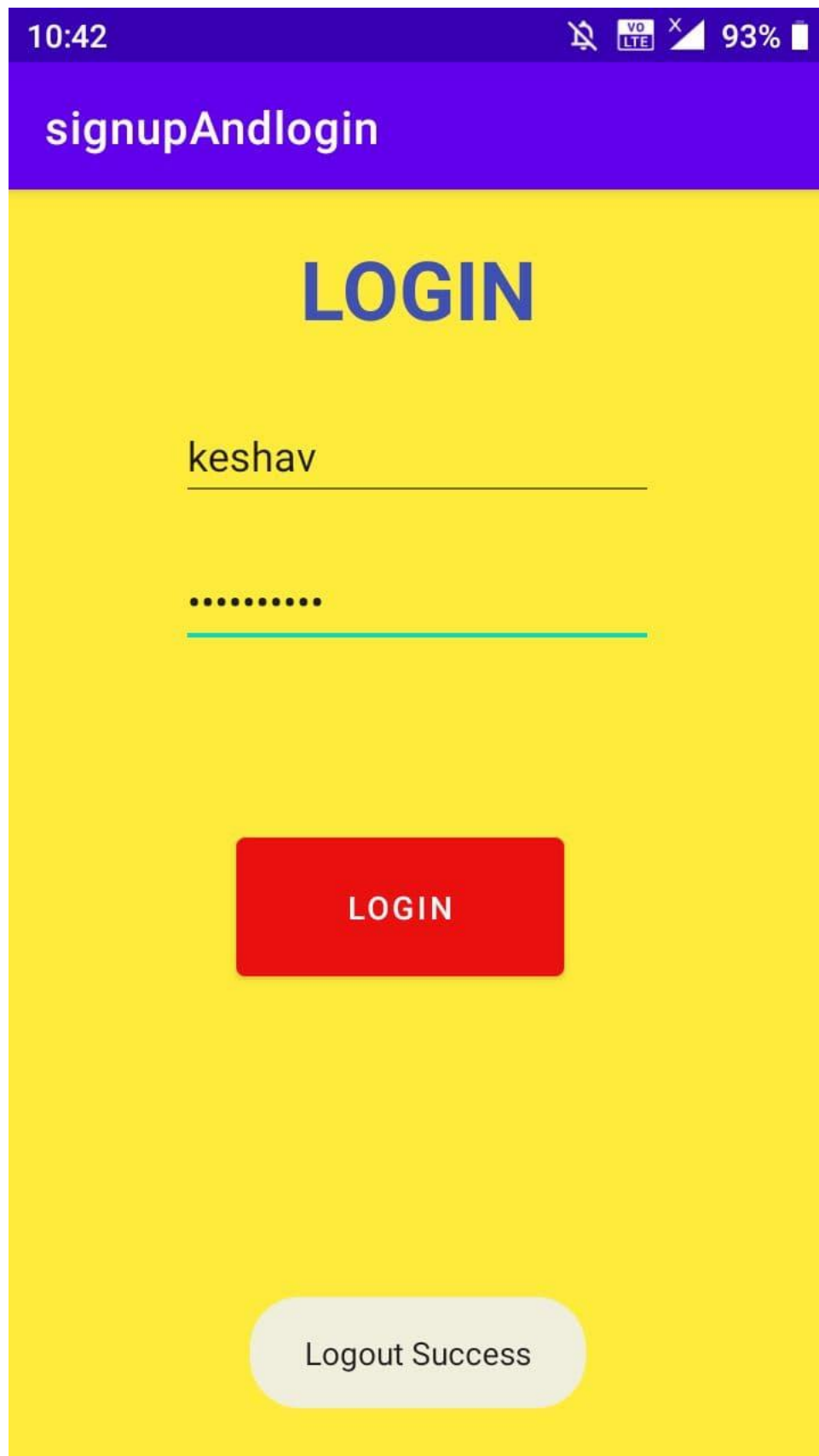
Username

Password

LOGIN

Signup Success





10:42

VoLTE 93%

signupAndlogin

LOGIN

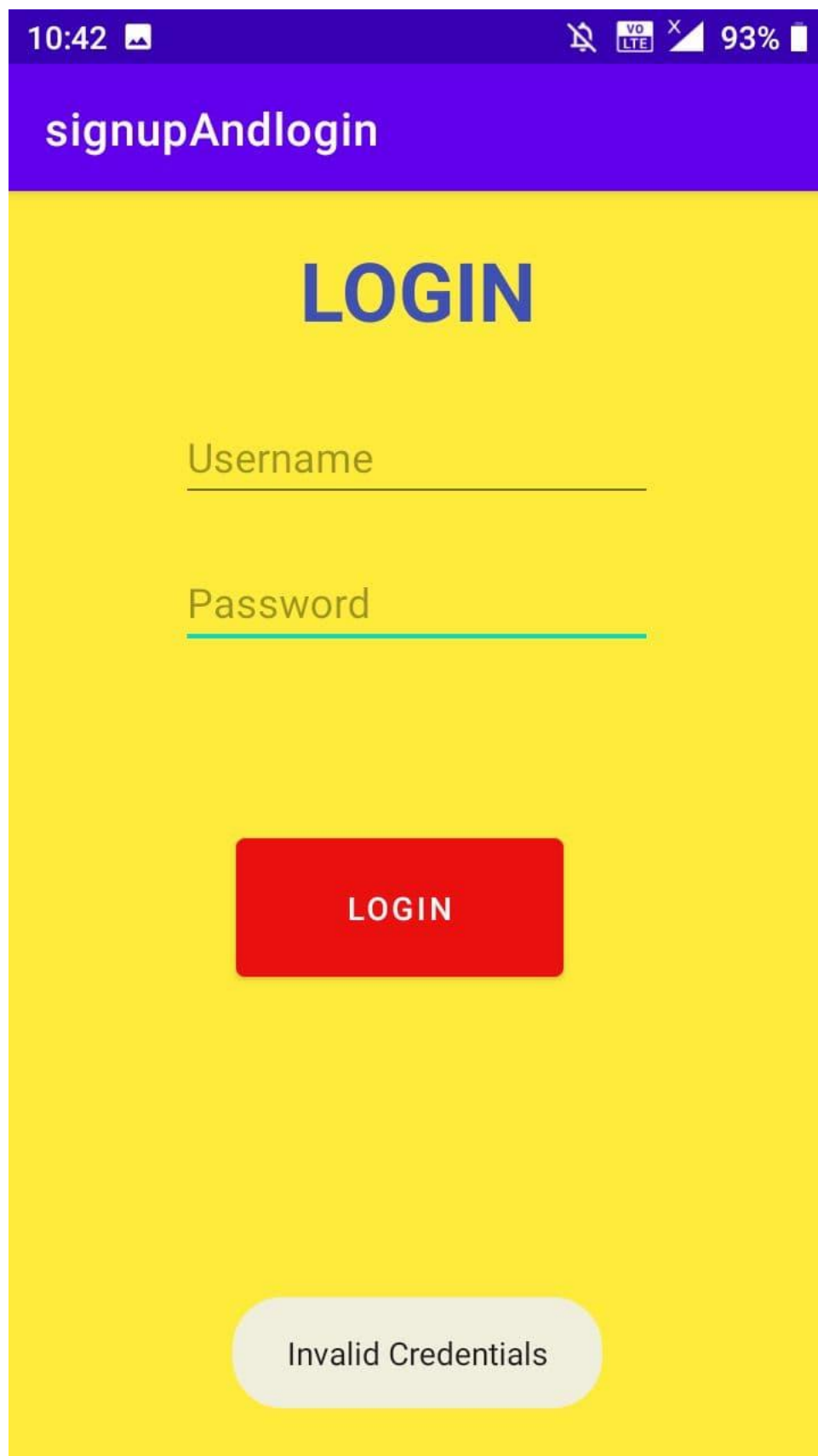
keshav

.....

LOGIN

Logout Success

The image shows a mobile application interface for a login screen. At the top, there is a status bar with the time 10:42, VoLTE indicator, and 93% battery. Below the status bar is a purple header with the text 'signupAndlogin'. The main background is yellow. In the center, the word 'LOGIN' is displayed in large blue letters. Below this, there are two input fields: the first contains the text 'keshav' and the second contains ten dots, indicating a password field. A red button with the text 'LOGIN' is positioned below the input fields. At the bottom, a light gray rounded rectangle contains the text 'Logout Success'.



10:42 [Signal Icon] [VoLTE Icon] [X Icon] 93% [Battery Icon]

signupAndlogin

LOGIN

Username

Password

LOGIN

Invalid Credentials

The image is a mobile application login screen. It features a purple header bar with the text 'signupAndlogin' in white. Below the header is a large yellow rectangular area. In the center of the yellow area, the word 'LOGIN' is written in large, bold, blue capital letters. Below 'LOGIN', there are two input fields: 'Username' and 'Password'. The 'Username' field has a green underline, and the 'Password' field has a red underline. Below the input fields is a red rectangular button with the word 'LOGIN' in white capital letters. At the bottom of the yellow area, there is a light gray rounded rectangular button with the text 'Invalid Credentials' in black. The top of the screen shows a status bar with the time '10:42', a signal strength icon, a 'VoLTE' icon, an 'X' icon, and a battery level of '93%' with a battery icon.

10:41

94%

signupAndlogin

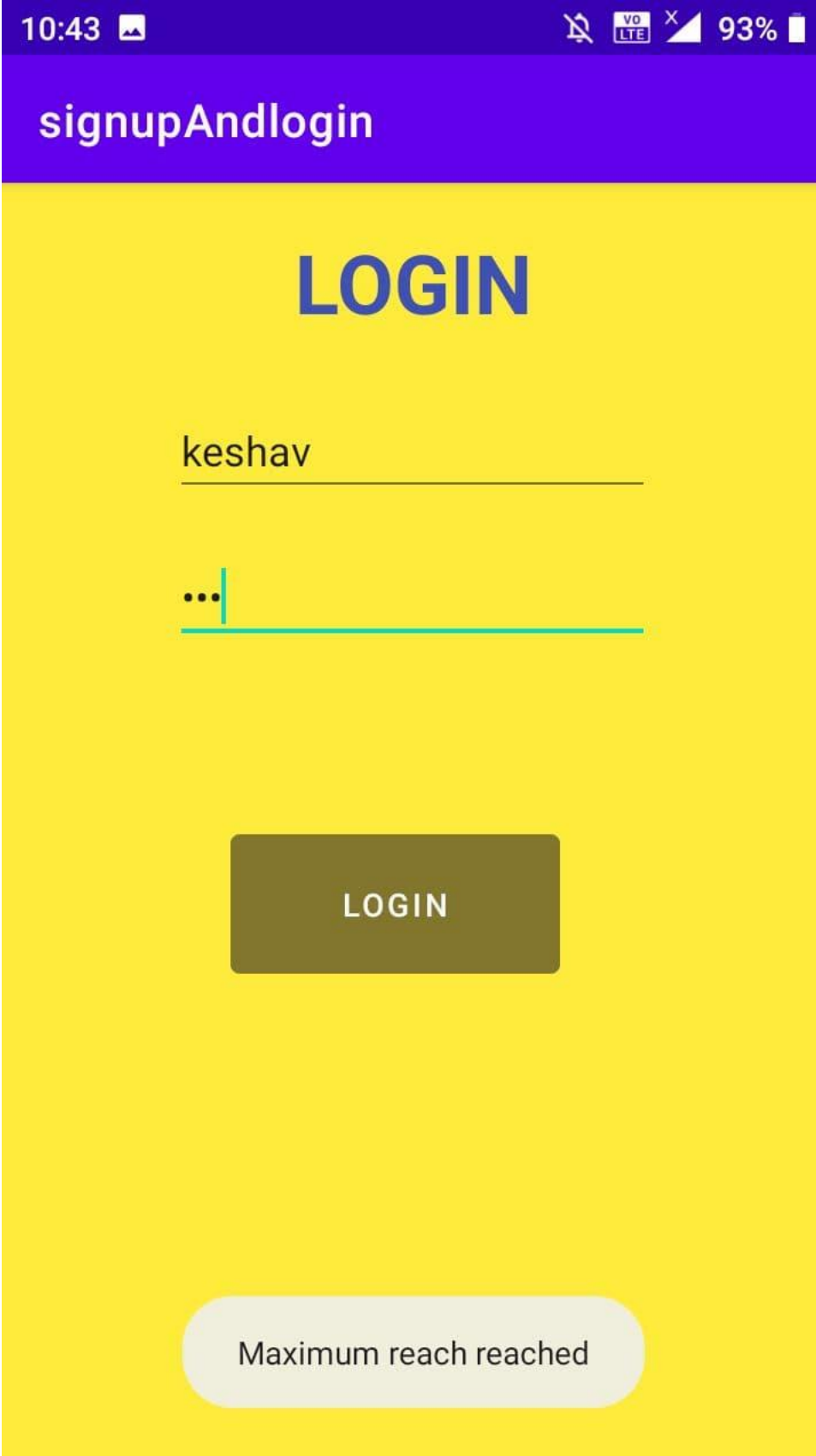
SIGNUP

keshav

....

SIGNUP

Password should contain upper and lower case and special character sequence

A mobile application login screen. At the top is a purple header bar with the text "signupAndlogin" in white. Below the header is a large yellow rectangular area. In the center of the yellow area, the word "LOGIN" is written in large, bold, blue capital letters. Below "LOGIN", there are two input fields. The first field contains the text "keshav". The second field contains three dots "..." and has a green vertical line at its end. Below the input fields is a dark olive-green rectangular button with the word "LOGIN" in white capital letters. At the bottom of the yellow area, there is a light gray rounded rectangular button with the text "Maximum reach reached" in black.