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;
```

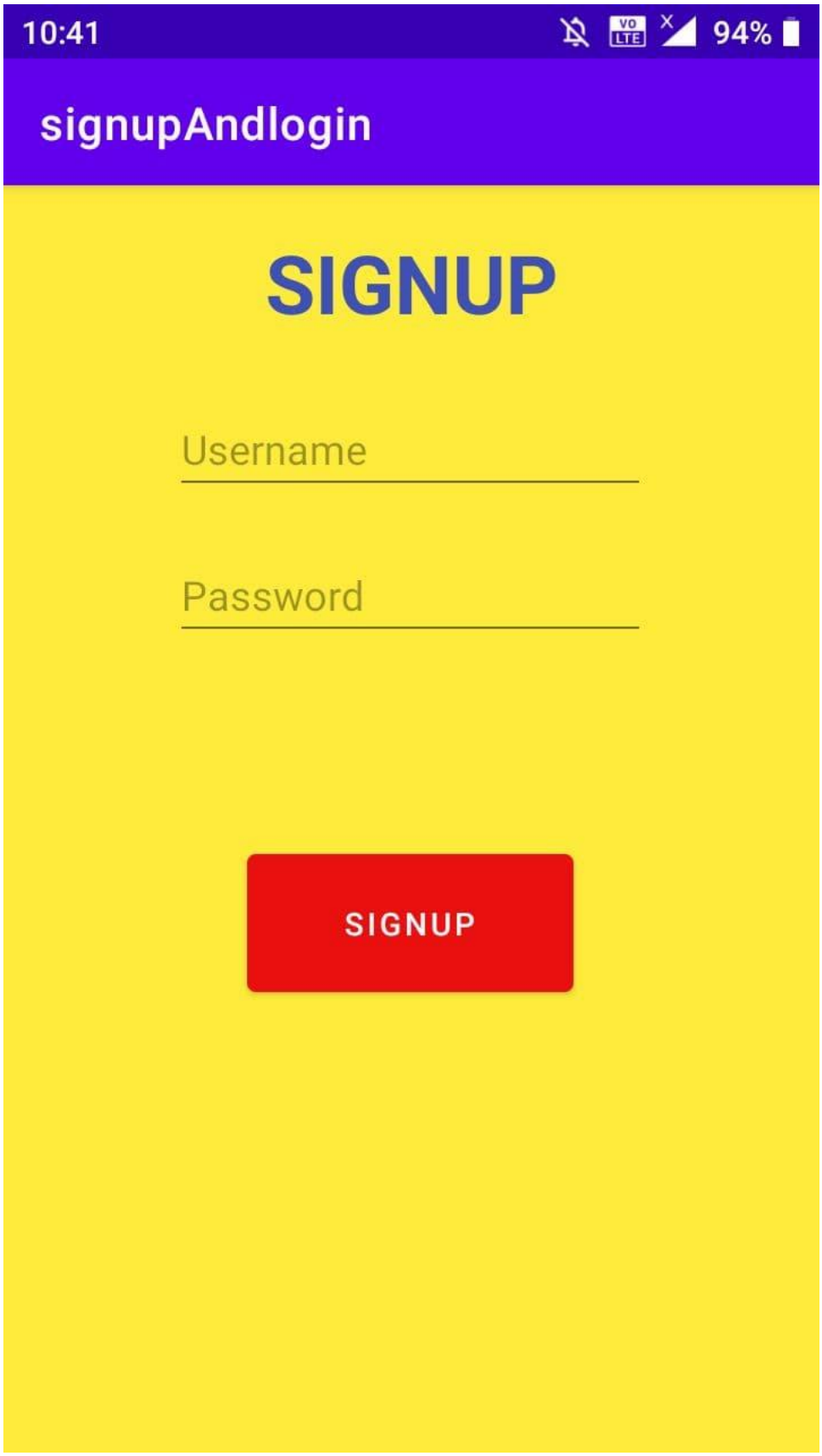
```
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.Toast;

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);
```

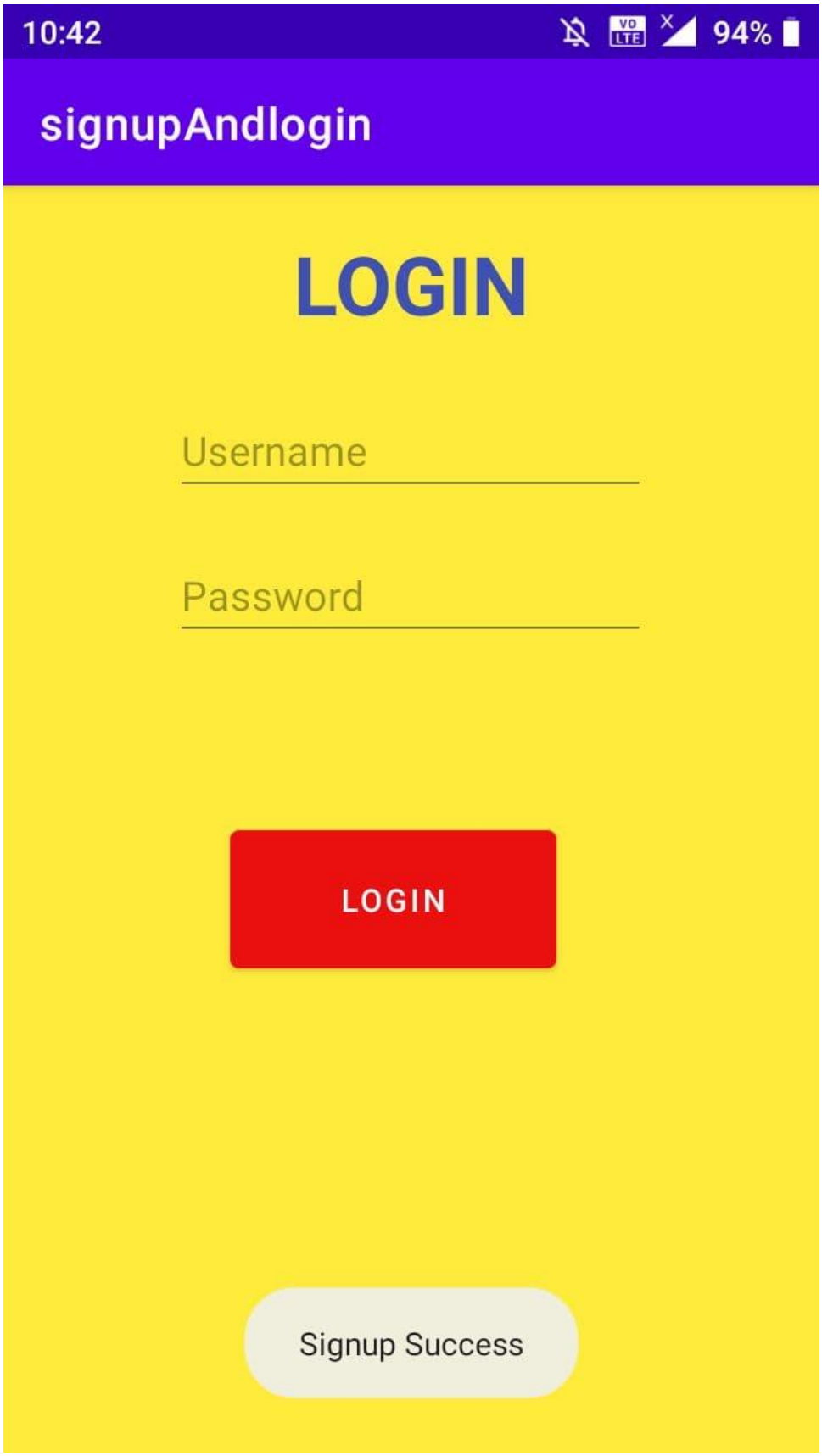
```
            }
        }
    });

    }
}
```

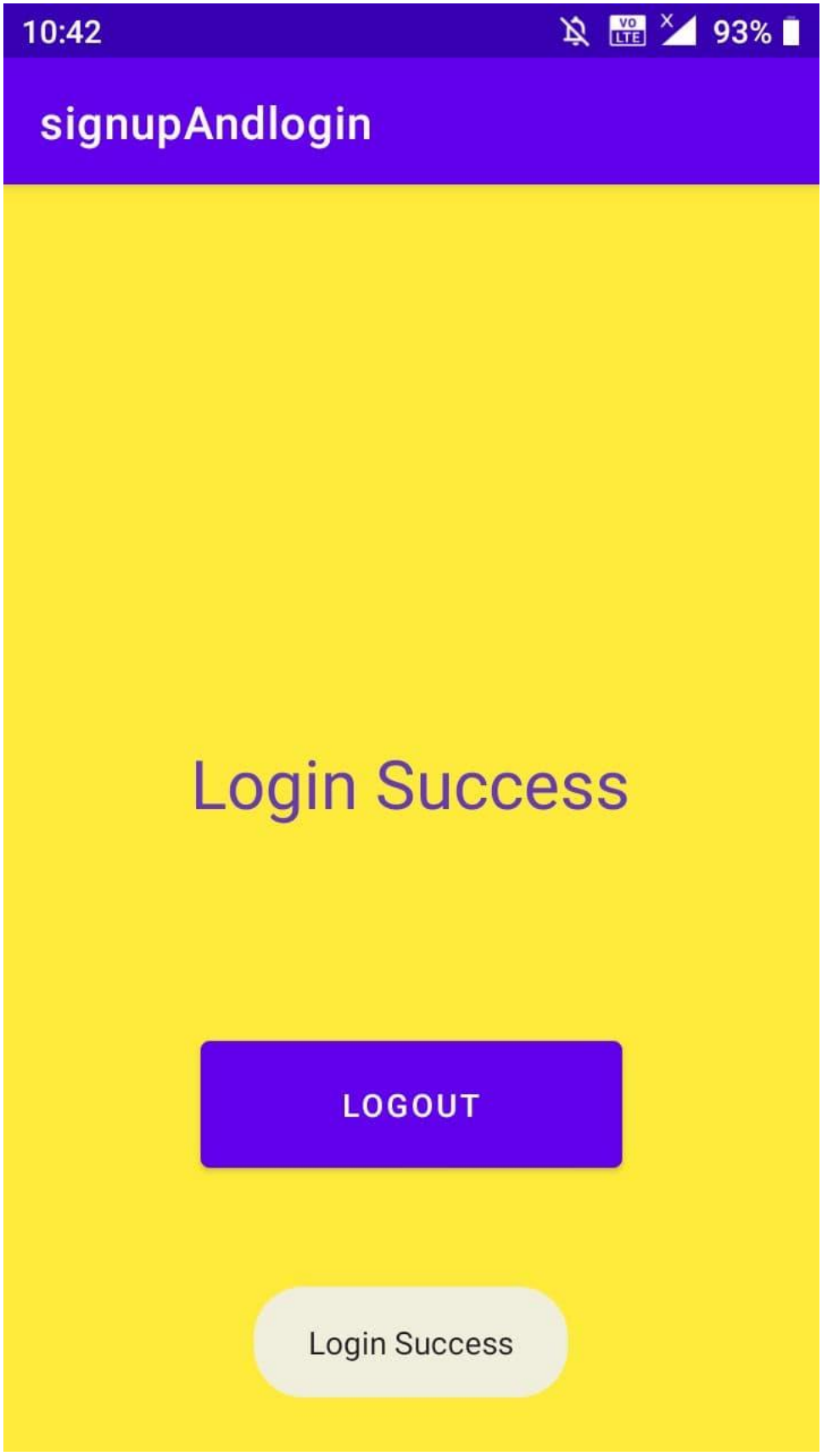
Login Success:

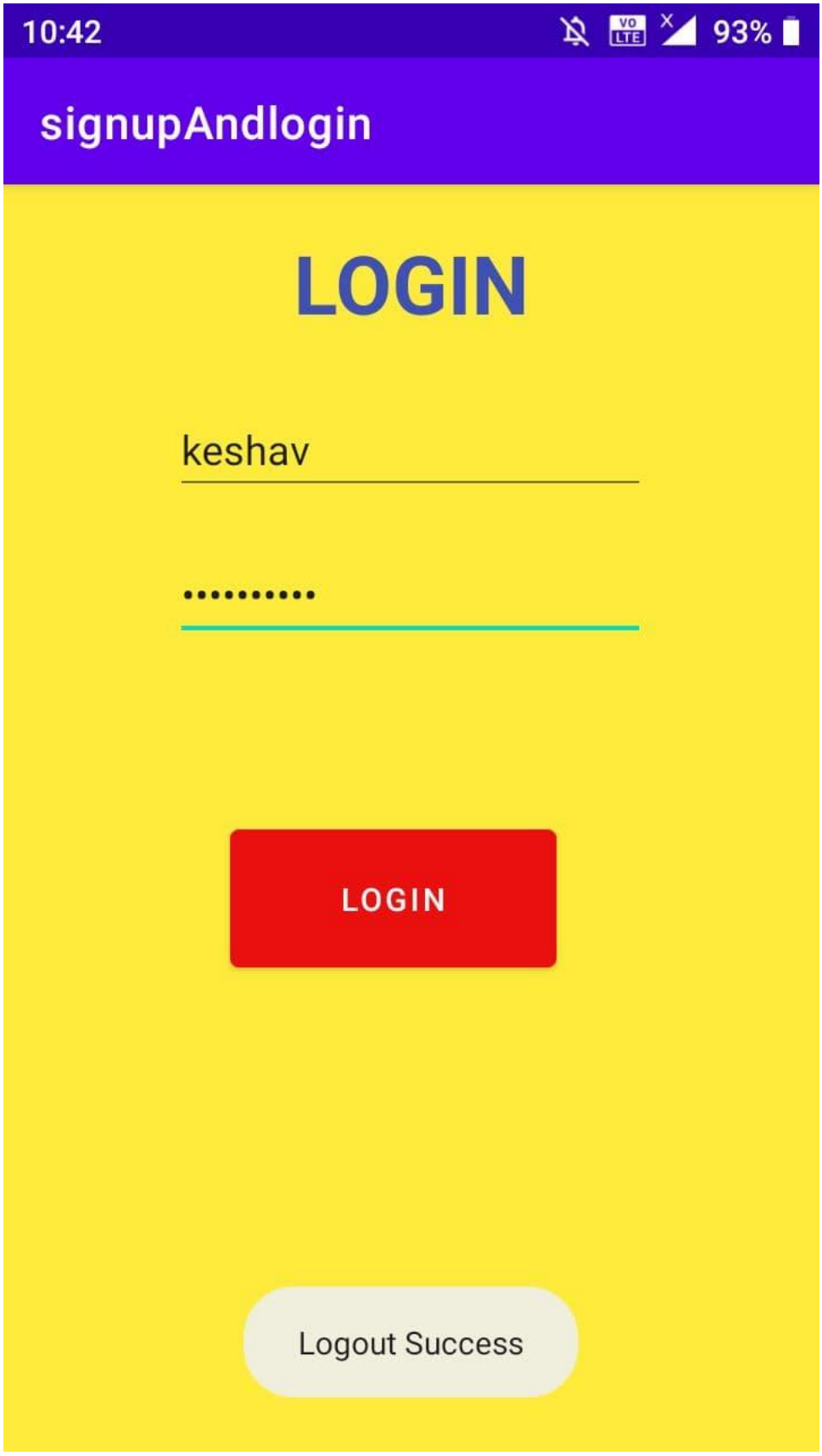
```
package com.keshavrkaranth.signupandlogin;

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();
            }
        });

    }
}
```

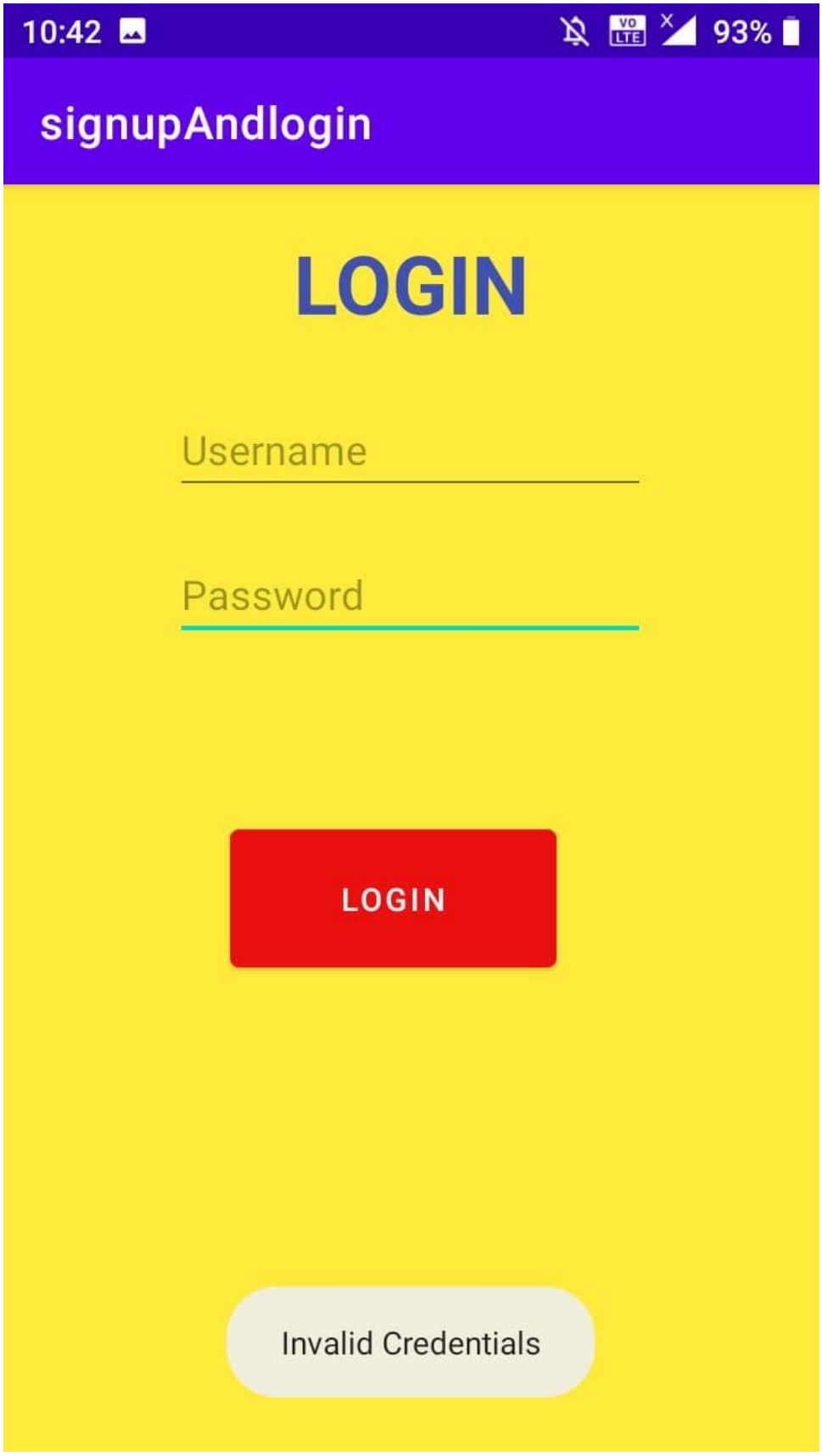
Sample Output:

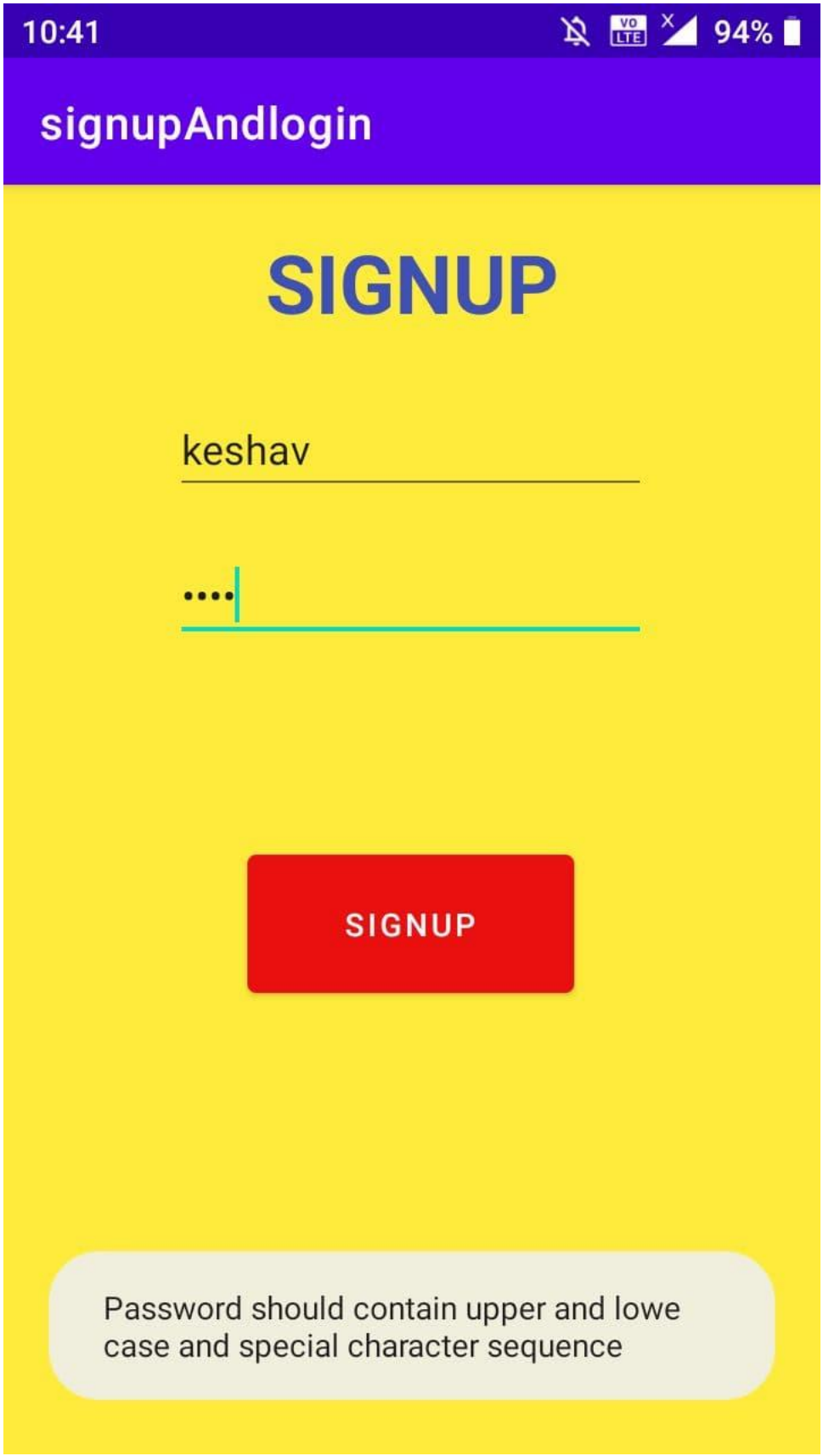


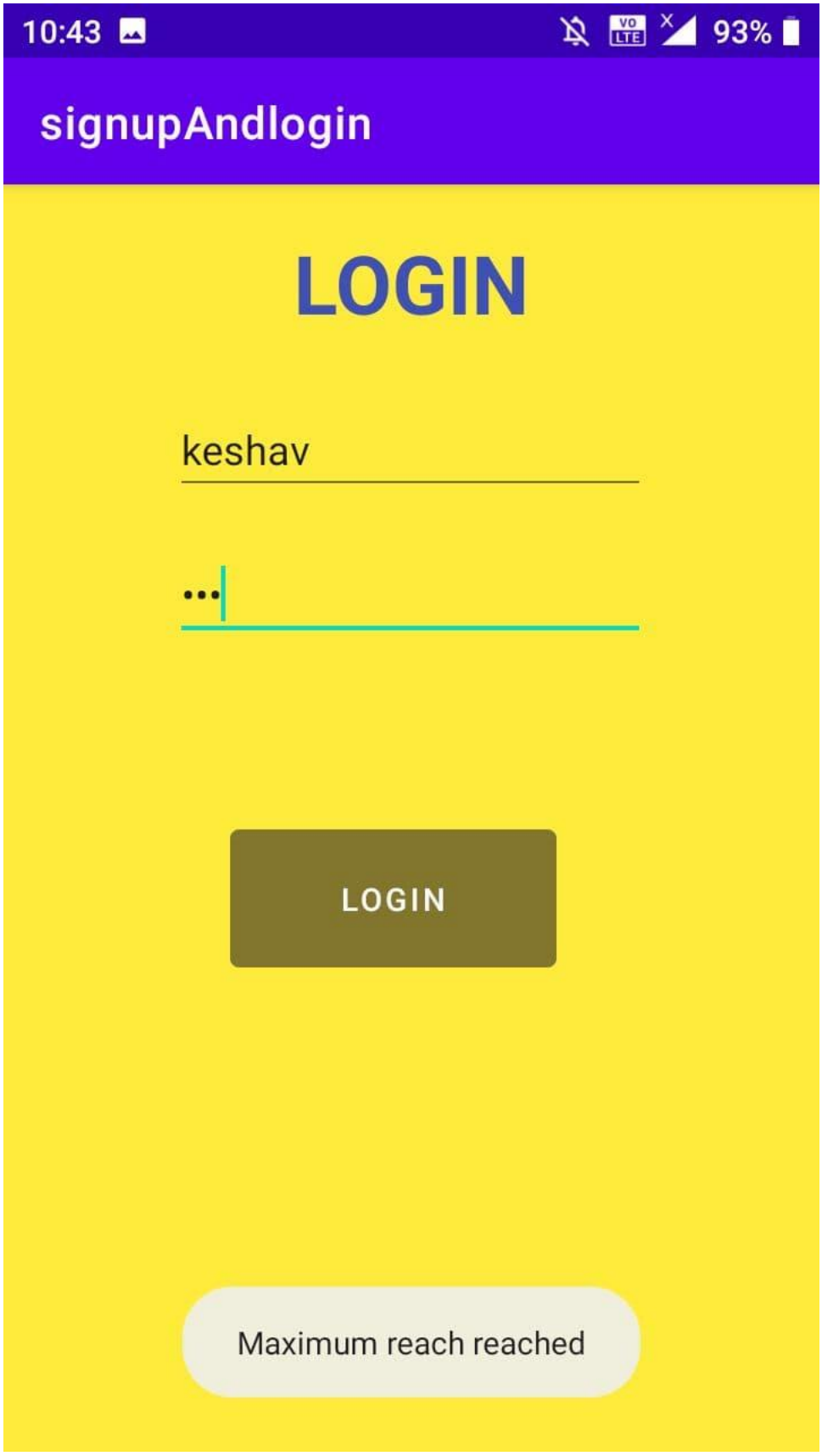

10:42
94%
signupAndlogin
LOGIN
Username
Password
LOGIN
Signup Success


10:42
93%
signupAndlogin
Login Success
LOGOUT
Login Success


10:42
93%
signupAndlogin
LOGIN
keshav
LOGIN
Logout Success


10:42
93%
signupAndlogin
LOGIN
Username
Password
LOGIN
Invalid Credentials


10:41
94%
signupAndlogin
SIGNUP
keshav
SIGNUP
Password should contain upper and lowe
case and special character sequence


10:43
93%
signupAndlogin
LOGIN
keshav
LOGIN
Maximum reach reached