

Layout.xml

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout
xmlns:android="http://schemas.android.com/apk/res/android" android:layout_
width="match_parent"
android:layout_height="match_parent"          android:orientation="vertical"
android:padding="16dp">

    <!-- Registration Section -->
    <TextView
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:text="Register"          android:textSize="18sp"
android:layout_marginBottom="16dp"/>
        <EditText          android:id="@+id/registerUsername"
android:layout_width="match_parent"
android:layout_height="wrap_content"          android:hint="Enter
username"          android:inputType="text"/>
        <EditText          android:id="@+id/registerPassword"
android:layout_width="match_parent"
android:layout_height="wrap_content"          android:hint="Enter
password"          android:inputType="textPassword"/>
        <Button
android:id="@+id/registerButton"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:text="Register"
android:layout_marginTop="16dp"/>

    <!-- Login Section -->
    <TextView
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:text="Login"          android:textSize="18sp"
android:layout_marginTop="32dp"
android:layout_marginBottom="16dp"/>
        <EditText          android:id="@+id/loginUsername"
android:layout_width="match_parent"
android:layout_height="wrap_content"          android:hint="Enter
username"          android:inputType="text"/>
        <EditText          android:id="@+id/loginPassword"
android:layout_width="match_parent"
android:layout_height="wrap_content"          android:hint="Enter
password"          android:inputType="textPassword"/>
        <Button
android:id="@+id/loginButton"
android:layout_width="wrap_content"
android:layout_height="wrap_content"          android:text="Login"
android:layout_marginTop="16dp"/>
        <TextView
android:id="@+id/result"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_gravity="center_horizontal"
android:layout_marginTop="16dp"/>
```

</LinearLayout>

Main.java

```
package com.example.myapplication; import
android.os.Bundle; import android.text.TextUtils;
import android.util.Log; import android.widget.Button;
import android.widget.EditText; import
android.widget.TextView; import
androidx.appcompat.app.AppCompatActivity; import
java.util.regex.Pattern; public class MainActivity
extends AppCompatActivity { private EditText
registerUsernameEditText; private EditText
registerPasswordEditText; private Button
registerButton; private EditText
loginUsernameEditText; private EditText
loginPasswordEditText; private Button loginButton;
private TextView resultTextView; private String
registeredUsername; private
String registeredPassword;

@Override protected void onCreate(Bundle
savedInstanceState) {
super.onCreate(savedInstanceState);
setContentView(R.layout.activity_main);
// Initialize registration views
registerUsernameEditText = findViewById(R.id.registerUsername);
registerPasswordEditText = findViewById(R.id.registerPassword);
registerButton = findViewById(R.id.registerButton);
// Initialize login views loginUsernameEditText =
findViewById(R.id.loginUsername); loginPasswordEditText =
findViewById(R.id.loginPassword); loginButton =
findViewById(R.id.loginButton); resultTextView
= findViewById(R.id.result);
// Set up button click listeners
registerButton.setOnClickListener(v -> registerUser());
loginButton.setOnClickListener(v -> loginUser());
} private void registerUser() {
String username =
registerUsernameEditText.getText().toString().trim();
String password =
registerPasswordEditText.getText().toString().trim();
if (TextUtils.isEmpty(username)) {
resultTextView.setText("Username cannot be empty.");
return; } if (TextUtils.isEmpty(password)) {
resultTextView.setText("Password cannot be empty.");
return; } if
(!isPasswordValid(password)) {
// Provide detailed feedback for debugging
resultTextView.setText("Password must contain at least one number, one
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special character, and be at least 8 characters long.");
return;
    }
    // Save registration details
    registeredUsername = username;          registeredPassword
= password;
    resultTextView.setText("Registration
successful!");
}    private void loginUser() {          String username =
loginUsernameEditText.getText().toString().trim();          String
password =
loginPasswordEditText.getText().toString().trim();
if (TextUtils.isEmpty(username)) {
    resultTextView.setText("Username cannot be empty.");
    return;          }    if (TextUtils.isEmpty(password)) {
    resultTextView.setText("Password cannot be empty.");
    return;
}    if (username.equals(registeredUsername) &&
password.equals(registeredPassword)) {
    resultTextView.setText("Login successful!");
} else {
    resultTextView.setText("Login failed. Invalid username or
password.");          }
}    private boolean isPasswordValid(String
password) {
    // Check for at least one digit and one special character, and a
minimum length of 8 characters
    Pattern pattern =
Pattern.compile("(?=.*[09])(?=.*[@#$%^&+=!]) [AZa-z0-
9@#$%^&+=!]{8,}$");          return
pattern.matcher(password).matches();
    }
}

```

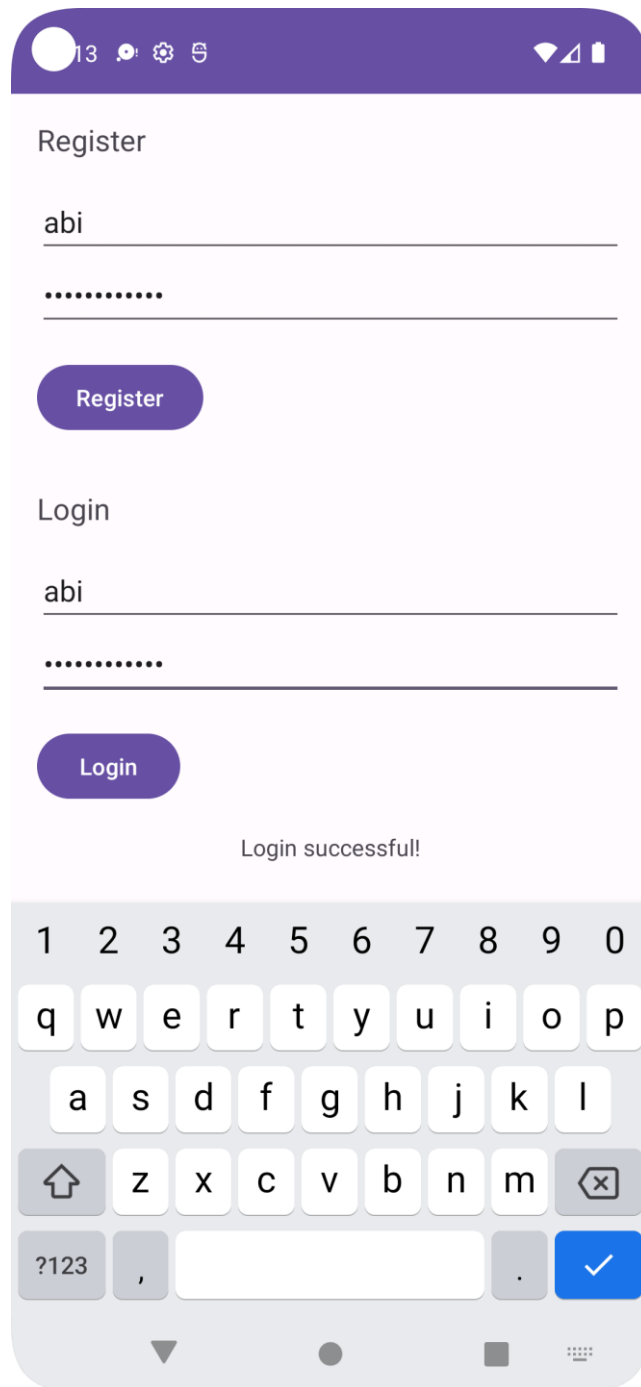
Manifest.xml

```

<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
xmlns:tools="http://schemas.android.com/tools">
    <application          android:allowBackup="true"
    android:dataExtractionRules="@xml/data_extraction_rules"
    android:fullBackupContent="@xml/backup_rules"
    android:icon="@mipmap/ic_launcher"
    android:label="@string/app_name"
    android:roundIcon="@mipmap/ic_launcher_round"
    android:supportsRtl="true"
    android:theme="@style/Theme.Database"
    tools:targetApi="31">          <activity
    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>
```





Register

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Register

Login

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Login

Registration successful!

