MainActivity.java

```
package com.example.loginapp; // Update with
your package name
import android.os.Bundle;
import android.view.View;
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 usernameEditText;
  private EditText passwordEditText;
  private TextView messageTextView;
  private Button loginButton;
  // Hardcoded credentials (for demonstration
purposes)
  private static final String
CORRECT USERNAME = "Karthi";
  private static final String
CORRECT_PASSWORD = "Password123!";
  @Override
  protected void onCreate(Bundle
savedInstanceState) {
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity main);
    // Initialize views
    usernameEditText =
findViewById(R.id.username);
    passwordEditText =
findViewById(R.id.password);
    messageTextView =
findViewById(R.id.message);
    loginButton =
findViewById(R.id.login button);
    // Set up the login button click listener
    loginButton.setOnClickListener(new
View.OnClickListener() {
       @Override
       public void onClick(View v) {
         // Get user input
         String username =
usernameEditText.getText().toString().trim();
         String password =
passwordEditText.getText().toString().trim();
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```
// Validate username and password
         if (isValidUsername(username) &&
isValidPassword(password)) {
            // Check if the credentials are correct
            if
(username.equals(CORRECT USERNAME) &&
password.equals(CORRECT PASSWORD)) {
              messageTextView.setText("Login
successful!");
              messageTextView.setText("Invalid
username or password.");
    });
  private boolean isValidUsername(String
username) {
    if (username.isEmpty()) {
       messageTextView.setText("Username
cannot be empty.");
       return false;
    } else if
(!Character.isUpperCase(username.charAt(0))) {
       messageTextView.setText("Username must
start with an uppercase letter.");
       return false;
    return true;
  private boolean is Valid Password (String
password) {
    if (password.isEmpty()) {
       messageTextView.setText("Password
cannot be empty.");
       return false;
    } else if (password.length() < 8) {
       messageTextView.setText("Password must
be at least 8 characters long.");
       return false;
     } else if (!Pattern.compile("[A-
Z]").matcher(password).find()) {
       messageTextView.setText("Password must
contain at least one uppercase letter.");
       return false;
    } else if (!Pattern.compile("[0-
9]").matcher(password).find()) {
       messageTextView.setText("Password must
contain at least one number.");
       return false;
     } else if
(!Pattern.compile("[!@#$%^&*(),.?\":{}|<>]").mat
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cher(password).find()) {
                                                              loginButton.setOnClickListener(new
       messageTextView.setText("Password must
                                                          View.OnClickListener() {
contain at least one special character.");
                                                                 @Override
       return false;
                                                                 public void onClick(View v) {
                                                                   // Get user input
                                                                   String username =
    return true;
                                                          usernameEditText.getText().toString().trim();
                                                                   String password =
                                                         passwordEditText.getText().toString().trim();
Androidmanifest.java
                                                                   // Validate username and password
package com.example.loginapp; // Update with
                                                                   if (isValidUsername(username) &&
your package name
                                                          isValidPassword(password)) {
                                                                     // Check if the credentials are correct
import android.os.Bundle;
import android.view.View;
                                                          (username.equals(CORRECT USERNAME) &&
import android.widget.Button;
                                                          password.equals(CORRECT PASSWORD)) {
import android.widget.EditText;
                                                                        messageTextView.setText("Login
import android.widget.TextView;
                                                          successful!");
import
                                                                      } else {
androidx.appcompat.app.AppCompatActivity;
                                                                        messageTextView.setText("Invalid
                                                          username or password.");
import java.util.regex.Pattern;
public class MainActivity extends
                                                                 }
AppCompatActivity {
                                                              });
  private EditText usernameEditText;
                                                          private boolean isValidUsername(String username)
  private EditText passwordEditText;
  private TextView messageTextView;
  private Button loginButton;
                                                              if (username.isEmpty()) {
                                                                 messageTextView.setText("Username
  // Hardcoded credentials (for demonstration
                                                          cannot be empty.");
                                                                 return false;
purposes)
  private static final String
                                                              } else if
CORRECT USERNAME = "Karthi";
                                                          (!Character.isUpperCase(username.charAt(0))) {
                                                                 messageTextView.setText("Username must
  private static final String
CORRECT PASSWORD = "Password123!";
                                                          start with an uppercase letter.");
                                                                 return false;
  @Override
  protected void onCreate(Bundle
                                                              return true;
savedInstanceState) {
    super.onCreate(savedInstanceState);
                                                            private boolean isValidPassword(String
    setContentView(R.layout.activity main);
                                                          password) {
    // Initialize views
                                                              if (password.isEmpty()) {
                                                                 messageTextView.setText("Password
    usernameEditText =
                                                          cannot be empty.");
findViewById(R.id.username);
    passwordEditText =
                                                                 return false;
findViewById(R.id.password);
                                                              \} else if (password.length() < 8) {
                                                                 messageTextView.setText("Password must
    messageTextView =
                                                          be at least 8 characters long.");
findViewById(R.id.message);
    loginButton =
                                                                 return false;
                                                              } else if (!Pattern.compile("[A-
findViewById(R.id.login button);
                                                          Z]").matcher(password).find()) {
```

// Set up the login button click listener

messageTextView.setText("Password must

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contain at least one uppercase letter.");
                                                             android:padding="10dp"
       return false;
    } else if (!Pattern.compile("[0-
                                                         android:background="@drawable/edit text backgr
9]").matcher(password).find()) {
                                                         ound"
       messageTextView.setText("Password must
                                                             android:inputType="textPassword" />
contain at least one number.");
       return false:
                                                           <Button
    } else if
                                                             android:id="@+id/login button"
(!Pattern.compile("[!@#$%^&*(),.?\":{}|<>]").mat
                                                             android:layout width="match parent"
cher(password).find()) {
                                                             android:layout_height="wrap_content"
       messageTextView.setText("Password must
                                                             android:layout below="@id/password"
                                                             android:layout margin="16dp"
contain at least one special character.");
                                                             android:background="@color/colorPrimary"
       return false;
                                                             android:padding="10dp"
                                                             android:text="Login"
    return true;
                                                             android:textColor="#FFFFFF" />
Activity main.xml
                                                           <TextView
                                                             android:id="@+id/message"
<?xml version="1.0" encoding="utf-8"?>
                                                             android:layout width="wrap content"
                                                             android:layout height="wrap content"
<RelativeLayout
                                                             android:layout below="@id/login button"
xmlns:android="http://schemas.android.com/apk/re
                                                             android:layout margin="16dp"
s/android"
                                                             android:textColor="#FF0000"
  android:layout width="match parent"
                                                             android:textSize="16sp"/>
  android:layout height="match parent">
                                                         </RelativeLayout>
  <TextView
    android:id="@+id/textViewTitle"
    android:layout width="wrap content"
    android:layout height="wrap content"
    android:text="Login"
    android:textSize="30sp"
    android:textColor="#FFFFFF"
    android:layout centerHorizontal="true"
    android:layout marginTop="80dp" />
  <EditText
    android:id="@+id/username"
    android:layout width="match parent"
    android:layout height="wrap content"
    android:layout below="@id/textViewTitle"
    android:layout margin="16dp"
    android:hint="Username"
    android:padding="10dp"
android:background="@drawable/edit text backgr
ound"/>
  <EditText
    android:id="@+id/password"
    android:layout width="match parent"
    android:layout height="wrap content"
    android:layout below="@id/username"
    android:layout margin="16dp"
    android:hint="Password"
```

