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Create a signup 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 SIGNUP proceed to the next Login activity. Here the user should SIGNIN using the Username and Password created during signup activity. IF 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 SIGNIN button. Use bundle to transfer information from one activity to another.

Main XML code:

```
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"</pre>
  xmlns:app="http://schemas.android.com/apk/res-auto"
  xmlns:tools="http://schemas.android.com/tools"
  android:layout_width="match_parent"
  android:orientation="vertical"
  android:layout_margin="5dp"
  android:layout height="match parent"
  tools:context=".MainActivity">
  <TextView
    android:layout width="match parent"
    android:text="@string/sign_up_activity"
    android:gravity="center"
    android:textSize="25sp"
    android:layout_above="@+id/loginLayout"
    android:layout marginBottom="25dp"
    android:layout_height="wrap_content">
  </TextView>
  <LinearLayout
    android:id="@+id/loginLayout"
    android:layout width="match parent"
    android:orientation="vertical"
    android:layout centerInParent="true"
    android:layout_height="wrap_content">
       <com.google.android.material.textfield.TextInputLayout</p>
         android:id="@+id/userNameTextInputLayout"
         style="@style/Widget.MaterialComponents.TextInputLayout.OutlinedBox"
```

```
android:layout_width="match_parent"
         android:layout_margin="10dp"
         android:layout_height="wrap_content">
         <com.google.android.material.textfield.TextInputEditText
           android:id="@+id/user name"
           android:layout_width="match_parent"
           android:layout height="wrap content"
           android:hint="@string/name"/>
      </com.google.android.material.textfield.TextInputLayout>
      <com.google.android.material.textfield.TextInputLayout
         android:id="@+id/passwordTextInputLayout"
         style="@style/Widget.MaterialComponents.TextInputLayout.OutlinedBox"
         android:layout_width="match_parent"
         app:passwordToggleEnabled="true"
         android:layout_margin="10dp"
         android:layout_height="wrap_content">
         <com.google.android.material.textfield.TextInputEditText
           android:id="@+id/password"
           android:layout_width="match_parent"
           android:layout_height="wrap_content"
           android:inputType="textPassword"
           android:hint="@string/password"/>
      </com.google.android.material.textfield.TextInputLayout>
  </LinearLayout>
  <Button
    android:layout_width="wrap_content"
    android:layout gravity="center"
    android:layout marginTop="12dp"
    android:text="@string/sign_up"
    android:textAllCaps="false"
    android:layout_centerHorizontal="true"
    android:layout_below="@+id/loginLayout"
    android:id="@+id/signupbtn"
    android:layout_height="wrap_content">
  </Button>
</RelativeLayout>
```

Main Java Code:

```
package com.example.signupactivity;
```

```
import android.content.Intent;
import android.os.Bundle;
import android.text.TextUtils;
import android.view.View;
```

```
import android.widget.Button;
import android.widget.Toast;
import androidx.appcompat.app.AppCompatActivity;
import com.google.android.material.textfield.TextInputLayout;
import java.util.regex.Pattern;
public class MainActivity extends AppCompatActivity implements Base{
  TextInputLayout mEditTextName;
  TextInputLayout mEditTextPassword;
  Button mButton;
  Bundle bundle:
  String mUserName, mPassword;
  private static final Pattern PASSWORD_PATTERN = Pattern.compile("^(?=.*[0-9])(?=.*[a-
z])(?=.*[A-Z])(?=.*[@#$%^&+=])(?=\S+$).{8,}$");
  Intent mIntent:
  public static final String Shared_PRIF_NAME = "MyPrefs";
  /*
  (?=."\d)
              #must contains one digit from 0-9
  (?=.*[a-z])
             #must contains one lowercase characters
  (?-.*[A-Z]) #must contains one uppercase characters
  (?=. *[@#$%]) #must contains one special symbols in the list
  "@#$%"
                #match anything with previous condition checking
  \{8,\}
             #length at least 8 characters
  */
     @Override
    protected void onCreate(Bundle savedInstanceState) {
       super.onCreate(savedInstanceState);
       setContentView(R.layout.activity_main);
       init();
       listener();
     @Override
    public void init() {
       mIntent=new Intent();
       mEditTextName=findViewById(R.id.userNameTextInputLayout);
       mEditTextPassword=findViewById(R.id.passwordTextInputLayout);
       mButton=findViewById(R.id.signupbtn);
     }
     @Override
    public void listener() {
       mButton.setOnClickListener(new View.OnClickListener() {
         @Override
         public void onClick(View view) {
           mEditTextPassword.setErrorEnabled(false);
           mUserName = mEditTextName.getEditText().getText().toString();
           mPassword = mEditTextPassword.getEditText().getText().toString();
           if (TextUtils.isEmpty(mUserName) || TextUtils.isEmpty(mPassword)) {
```

```
Toast.makeText(MainActivity.this, "Enter All fields",
Toast.LENGTH_SHORT).show();
           } else {
             if (PASSWORD PATTERN.matcher(mPassword).matches()) {
                bundle = new Bundle();
                bundle.putString("NAME", mUserName);
                bundle.putString("PASSWORD", mPassword);
                mIntent.setClass(MainActivity.this, LoginActivity.class);
                mIntent.putExtras(bundle);
                startActivity(mIntent);
              } else {
                mEditTextPassword.setErrorEnabled(true);
                mEditTextPassword.setError("Invalid Password Pattern");
           }
         }
      });
}
```

Login XML code:

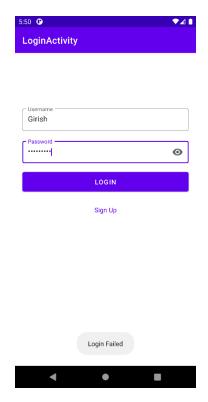
```
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
xmlns:android="http://schemas.android.com/apk/res/android"
  xmlns:app="http://schemas.android.com/apk/res-auto"
  xmlns:tools="http://schemas.android.com/tools"
  android:layout width="match parent"
  android:layout height="match parent"
  tools:context=".LoginActivity">
  <com.google.android.material.textfield.TextInputLayout</p>
    android:id="@+id/login username layout"
    style="@style/Widget.MaterialComponents.TextInputLayout.OutlinedBox"
    android:layout_width="match_parent"
    android:layout height="54dp"
    android:layout_marginStart="16dp"
    android:layout_marginTop="8dp"
    android:layout_marginEnd="16dp"
    android:layout marginBottom="8dp"
    app:layout_constraintBottom_toTopOf="@+id/login_password_layout"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.5"
    app:layout_constraintStart_toStartOf="parent"
    app:layout constraintTop toTopOf="parent"
    app:layout_constraintVertical_bias="0.25"
    app:layout_constraintVertical_chainStyle="packed">
    <com.google.android.material.textfield.TextInputEditText</p>
```

```
android:id="@+id/login_username"
  android:layout_width="match_parent"
  android:layout height="match parent"
  android:hint="@string/username"/>
</com.google.android.material.textfield.TextInputLayout>
<com.google.android.material.textfield.TextInputLayout</p>
  android:id="@+id/login password layout"
  style="@style/Widget.MaterialComponents.TextInputLayout.OutlinedBox"
  android:layout_width="match_parent"
  android:layout height="54dp"
  android:layout_marginStart="16dp"
  android:layout_marginTop="8dp"
  android:layout_marginRight="16dp"
  android:layout_marginEnd="16dp"
  android:layout_marginBottom="8dp"
  app:endIconCheckable="true"
  app:endIconMode="password_toggle"
  app:layout_constraintBottom_toTopOf="@+id/logInButton"
  app:layout_constraintEnd_toEndOf="parent"
  app:layout_constraintHorizontal_bias="0.5"
  app:layout_constraintStart_toStartOf="parent"
  app:layout_constraintTop_toBottomOf="@+id/login_username_layout">
  <com.google.android.material.textfield.TextInputEditText
    android:id="@+id/login_password"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:hint="@string/password"
    android:inputType="textPassword" />
</ri></com.google.android.material.textfield.TextInputLayout>
<com.google.android.material.button.MaterialButton</p>
  android:id="@+id/logInButton"
  android:layout_width="match_parent"
  android:layout_height="54dp"
  android:layout_marginStart="16dp"
  android:layout_marginTop="5dp"
  android:layout_marginEnd="16dp"
  android:layout_marginBottom="8dp"
  android:text="@string/login"
  app:layout_constraintBottom_toTopOf="@+id/login_to_signup"
  app:layout_constraintEnd_toEndOf="parent"
  app:layout_constraintHorizontal_bias="0.5"
  app:layout constraintStart toStartOf="parent"
  app:layout_constraintTop_toBottomOf="@id/login_password_layout" />
<com.google.android.material.textview.MaterialTextView
  android:layout marginRight="16dp"
  android:id="@+id/login_to_signup"
  android:layout_width="wrap_content"
```

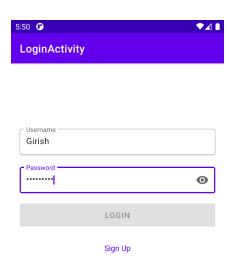
```
android:layout_height="wrap_content"
      android:layout_marginStart="16dp"
      android:layout marginTop="16dp"
      android:layout_marginEnd="16dp"
      android:layout_marginBottom="8dp"
      android:text="@string/sign_up"
      android:textColor="@color/purple_500"
      app:layout constraintBottom toBottomOf="parent"
      app:layout_constraintEnd_toEndOf="parent"
      app:layout_constraintHorizontal_bias="0.5"
      app:layout constraintStart toStartOf="parent"
      app:layout_constraintTop_toBottomOf="@id/logInButton" />
</androidx.constraintlayout.widget.ConstraintLayout>
Login Java code:
package com.example.signupactivity;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.Toast;
import androidx.appcompat.app.AppCompatActivity;
import com.google.android.material.textfield.TextInputLayout;
public class LoginActivity extends AppCompatActivity implements Base {
  TextInputLayout mEditTextName, mEditTextPassword;
  Button mButton;
  String mUserName, mPassword;
  Bundle mBundle;
  int count = 0;
  @Override
  protected void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity_login);
    init();
    listener();
  }
  @Override
  public void init() {
    mBundle = getIntent().getExtras();
    if (mBundle != null) {
      mUserName = mBundle.getString("NAME");
      mPassword = mBundle.getString("PASSWORD");
    mEditTextName = (TextInputLayout)findViewById(R.id.login_username_layout);
    mEditTextPassword = (TextInputLayout)findViewById(R.id.login password layout);
```

```
mButton = (Button) findViewById(R.id.logInButton);
  }
  @Override
  public void listener() {
    mButton.setOnClickListener(new View.OnClickListener() {
       @Override
       public void onClick(View view) {
         if (count < 3) {
           if (mUserName.equals(mEditTextName.getEditText().getText().toString()) &&
mPassword.equals(mEditTextPassword.getEditText().getText().toString())) {
              Toast.makeText(LoginActivity.this, "Successful Login",
Toast.LENGTH_SHORT).show();
            } else {
              count++;
              Toast.makeText(LoginActivity.this, "Login Failed",
Toast.LENGTH_SHORT).show();
         } else {
           mButton.setEnabled(false);
       }
    });
Output:
               SignUpActivity
                       Sign Up Activity
                Girish
                .....
                                          O
                           Sign Up
```

After Successful Signup

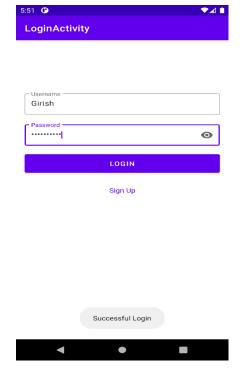


Login failed





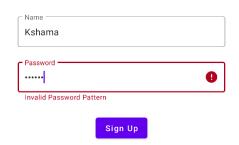
After 2 failed attempts, Login button is disabled



After successful Login



Sign Up Activity





Password not according to the rules