import java.util.regex.\*;

public class Login {

private String user;

private String password;

private String firstName;

private String lastName;

// Checks if the username meets the specified criteria.

public boolean checkUserName(String user) {

return user.length() <= 5 && user.contains("\_");

}

// Checks if the password meets the specified complexity rules

public boolean checkPasswordComplexity(String password) {

String regex = "^(?=.\*[0-9])"

+ "(?=.\*[a-z])(?=.\*[A-Z])"

+ "(?=.\*[@#$%^&+=])"

+ "(?=\\S+$).{8,20}$";

Pattern p = Pattern.compile(regex);

Matcher m = p.matcher(password);

return m.matches();

}

// Verifies if the entered username and password match the stored credentials.

public boolean loginUser(String user, String password) {

return user.equals(this.user) && password.equals(this.password);

}

// Returns the appropriate message based on the login status. (Kovko, 2024)

public String returnLoginStatus(String user, String password) {

if (loginUser(user, password)) {

return "Welcome " + firstName + " " + lastName + ", it is great to see you again.";

} else {

return "Username or password incorrect, please try again.";

}

}

// Registers the user and returns the registration status message.

public String registerUser(String firstName, String lastName, String user, String password) {

if (checkUserName(user)) {

this.user = user;

} else {

return "Username is not correctly formatted, please ensure that your username contains an underscore and is no more than 5 characters in length.";

}

if (checkPasswordComplexity(password)) {

this.password = password;

} else {

return "Password is not correctly formatted, please ensure that the password contains at least 8 characters, a capital letter, a number, and a special character.";

}

this.firstName = firstName;

this.lastName = lastName;

return "User registered successfully.";

}

}

import java.util.Scanner;

public class LoginApplication {

public static void main(String[] args) {

// I prompted the user to enter their username, password, first name, and last name.

try { // I imported the Scanner class to take input from the user

Scanner sc = new Scanner(System.in)) {

// I prompted the user to enter their username, password, first name, and last name.

System.out.print("Enter the username:");

String user = sc.nextLine();

System.out.print("Enter the password:");

String password = sc.nextLine();

System.out.print("Enter your First Name:");

String firstName = sc.nextLine();

System.out.print("Enter Your Last Name:");

String lastName = sc.nextLine();

// I created a new object of the Login class named login.

Login login = new Login();

// I called the registerUser method of the login object to register the user.

String registrationMessage = login.registerUser(firstName, lastName, user, password);

System.out.println(registrationMessage);

// If the registration is successful, I prompt the user to login.

if (registrationMessage.equals("User registered successfully.")) {

System.out.println("User registration successful. Now, let's login.");

System.out.print("Enter your username:");

String enteredUsername = sc.nextLine();

System.out.print("Enter your password:");

String enteredPassword = sc.nextLine();

// I take input for the username and password again.

// I call the returnLoginStatus method of the login object to check if the login credentials are correct and print the appropriate message.

String loginStatus = login.returnLoginStatus(enteredUsername, enteredPassword);

System.out.println(loginStatus);

}

// I close the Scanner to release system resources.

}

}

}