package *P*ackage;

import javax.swing.JOptionPane;

public class Login {

    // Private Fields for username, password, firstname and lastname of user

    private String username;

    private String password;

    private String firstName;

    private String lastName;

    // Getters and Setters for username, password, firstName, and lastName fields

    public String getUsername() { // Username

        return username;

    }

    public void setUsername(String username) {

        this.username = username;

    }

    public String getPassword() {

        return password;

    }

    public void setPassword(String password) { // Password

        this.password = password;

    }

    public String getFirstName() {

        return firstName;

    }

    public void setFirstName(String firstName) {// First name

        this.firstName = firstName;

    }

    public String getLastName() {

        return lastName;

    }

    public void setLastName(String lastName) { // Last name

        this.lastName = lastName;

    }

    // REGISTRATION:

    /\*

     \* Validation for username and password

     \* Username must be <= 5 characters long and have at least 1 underscore

     \* Password must be at least 8 characters long, contain 1 uppercase, 1 digit,

     \* and 1 special character

     \*/

    public boolean checkUserName() {

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

    }

    public boolean checkPasswordComplexity() {

        // These are like switches, they start false and flip to true when their

        // condition is met, all switches are required to be true to validate password

        boolean hasUppercase = false;

        boolean hasDigit = false;

        boolean hasSpecialCharacter = false;

        char currentCharacterInPassword;

        for (int i = 0; i < password.length(); i++) {

            currentCharacterInPassword = password.charAt(i);

            if (Character.isUpperCase(currentCharacterInPassword)) {

                hasUppercase = true;

            } else if (Character.isDigit(currentCharacterInPassword)) {

                hasDigit = true;

            } else if (!Character.isLetterOrDigit(currentCharacterInPassword)

                    && !Character.isWhitespace(currentCharacterInPassword)) {

                hasSpecialCharacter = true;

            }

        }

        return password.length() >= 8 && hasUppercase && hasDigit && hasSpecialCharacter;

    }

    // Returns messages based on results of validation for username and password

    public String registerUser() {

        String usernameMessage;

        String passwordMessage;

        if (checkUserName()) {

            usernameMessage = "Welcome " + firstName + " " + lastName + ", it is great to see you.";

        } else {

            usernameMessage = "Username is not correctly formatted, please ensure that your username contains an underscore and is at least 5 characters in length.";

        }

        if (checkPasswordComplexity()) {

            passwordMessage = "Password successfully captured";

        } else {

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

        }

        return usernameMessage + " \n" + passwordMessage;

    }

    // LOGIN

    // Verfies that login details entered match the details stored during

    // registration

    public boolean loginUser() {

        // getting input from the user

        String inputUsername = JOptionPane.showInputDialog(null, "Enter your username", "Username", 1);

        String inputPassword = JOptionPane.showInputDialog(null, "Enter your password", "Password", 1);

        // returning a boolean based on whether or not the username and password match

        return inputUsername.equals(username) && inputPassword.equals(password);

    }

    // displaying messages based on the results of logging in

    public String loginStatus(boolean login) {

        String message;

        if (login) {

            message = "Logged in successfully";

        } else {

            message = "Unsuccessful Login, username or password is incorrect, please try again.";

        }

        return message;

    }

}

package *P*ackage;

import javax.swing.JOptionPane;

public class RegisterOrLogin {

    public static void main(String[] args) {

        Login newUser = new Login();

        String username;

        String password;

        String firstName;

        String surname;

        boolean registerUsername;

        boolean registerPassword;

        boolean correctLogin;

        boolean cancel = false;

        while (!cancel) {

            String[] rolOption = { "Register", "Login", "Cancel" };

            int registerOrLogin = JOptionPane.showOptionDialog(null,

                    "Register if you don't have an account\nOr Login to an existing account", "Register Or Login", 1, 1,

                    null, rolOption, rolOption[0]);

            switch (registerOrLogin) {

                case 0:

                    // Register

                    do {

                        // Prompting User for registration details

                        username = JOptionPane.showInputDialog("Register your username");

                        password = JOptionPane.showInputDialog("Register your password");

                        firstName = JOptionPane.showInputDialog("Register your first name");

                        surname = JOptionPane.showInputDialog("Register your surname");

                        // Setting inputted details

                        newUser.setUsername(username);

                        newUser.setPassword(password);

                        newUser.setFirstName(firstName);

                        newUser.setLastName(surname);

                        // Validating user inputs ---> username and password

                        registerUsername = newUser.checkUserName();

                        registerPassword = newUser.checkPasswordComplexity();

                        // Message displaying validation results

                        JOptionPane.showMessageDialog(null, newUser.registerUser(), "Registration Status",

                                registerUsername && registerPassword ? 1 : 0);

                    } while (!registerUsername || !registerPassword);

                    break;

                case 1:

                    // Login

                    do {

                        correctLogin = newUser.loginUser();

                        JOptionPane.showMessageDialog(null, newUser.loginStatus(correctLogin), "Login Status",

                                correctLogin ? 1 : 0);

                    } while (!correctLogin);

                    break;

                case 2:

                    cancel = true;

                    break;

                default:

                    JOptionPane.showMessageDialog(null, "Please choose a valid option", "Error", 0);

                    break;

            }

        }

    }

}