

```

1 package regex talk.password.toshow;
2
3 import java.util.Arrays;
4 import java.util.regex.Matcher;
5 import java.util.regex.Pattern;
6
7 public class Password03LogicTwoRules {
8
9     public static final int MIN_LENGTH = 8;
10    public static final int RULE_COUNT = 2;
11    public static final boolean WHITESPACE_OK = false;
12
13    private Matcher lowerCaseMatcher = matcherForRegex("[a-z]");
14    private Matcher upperCaseMatcher = matcherForRegex("[A-Z]");
15    private Matcher digitMatcher = matcherForRegex("[0-9]");
16    private Matcher symbolMatcher = matcherForRegex(
17        "[><?.,!@#$$%^&*+=_)(\{\}\[\]\]");
18    private Matcher whitespaceMatcher = matcherForRegex("\s");
19
20    public boolean isPasswordValid(String password) {
21
22        int rulesFollowed = getSpecialRulesFollowedCount(password);
23        if(rulesFollowed < RULE_COUNT) { return false; }
24
25        boolean longEnough = (password.length() >= MIN_LENGTH);
26        if (!longEnough) { return false; }
27
28        if (WHITESPACE_OK) {
29            return true;
30        }
31
32        boolean whitespaceWasFoundAndIsBad = whitespaceMatcher.
33            reset(password).find();
34        return whitespaceWasFoundAndIsBad;
35    }
36
37    private int getSpecialRulesFollowedCount(String password) {
38        int count = (lowerCaseMatcher.reset(password).find() ? 1 : 0) +
39            (upperCaseMatcher.reset(password).find() ? 1 : 0);
40
41        //Short circuiting, for when RULE_COUNT happens to be
42        //two or greater.
43        if (count < RULE_COUNT) {
44            count = (digitMatcher.reset(password).find() ? 1 : 0);
45        }
46
47        if (count < RULE_COUNT) {
48            count = (symbolMatcher.reset(password).find() ? 1 : 0);
49        }
50
51        return count;
52    }
53
54    private Matcher matcherForRegex(String regex) {
55        return Pattern.compile(regex).matcher("ignored input");
56    }
57
58    public static void main(String[] ignored) {
59

```

```
60 String[] inputs = new String[] {
61     "", //bad (bad rules, bad length)
62     "abcdefghij", //bad (bad rules, good length)
63     "abc123", //bad (good rules, bad length)
64     "abc123abc", //3 rules: bad, 2 rules: good
65     "a1$A ", //bad (good rules, bad length)
66     "abc123$%^ABC", //good
67     "abcABC123$&*", //good
68     "abc ABC123$#$" //bad (whitespace)
69 };
70
71 Password03LogicTwoRules validator = new Password03LogicTwoRules();
72
73 Arrays.stream(inputs).forEach(input -> {
74
75     boolean valid = validator.isPasswordValid(input);
76     System.out.printf("\n %s\n is %s password.%n", input,
77         (valid ? "a VALID" : "an invalid"));
78     });
79 }
80 }
81
```