

# CIS 4004: Web-Based Information Technology Spring 2011

## Regular Expression Practice Problem SOLUTIONS

Instructor :      Dr. Mark Llewellyn  
                         markl@cs.ucf.edu  
                         HEC 236, 407-823-2790  
                         <http://www.cs.ucf.edu/courses/cis4004/spr2011>

Department of Electrical Engineering and Computer Science  
University of Central Florida



# Practice Problems

- Here are a few regular expression practice problems. You might try to construct regular expressions for these in both POSIX and PCRE formats. I'll post the solutions in a day or so.
1. Credit card numbers in the format 9999-9999-9999-9999
  2. Zip codes in either 5 digit or 9 digit formats, e.g., 99999 or 99999-9999
  3. Phone numbers in the format (area code) prefix – number.
  4. Social security numbers.



# Practice Problem SOLUTIONS

1. Credit card numbers in the format 9999-9999-9999-9999

POSIX format:

```
/^[[:digit:]]{4}(-[[:digit:]]{4})$/
```

PCRE format:

```
/^\d{4}(-\d{4})$/
```



# Practice Problem SOLUTIONS

2. Zip codes in either 5 digit or 9 digit formats, e.g., 99999 or 99999-9999

POSIX format:

```
/^[[:digit:]]{5}(-[[:digit:]]{4})?$/
```

PCRE format:

```
/^\d{5}(-\d{4})?$/
```



# Practice Problem SOLUTIONS

3. Phone numbers in the format (area code) prefix – number.

POSIX format:

```
/^\ ([[[:digit:]]{3}\) [[[:digit:]]{3}-[[[:digit:]]{4}$/
```

PCRE format:

```
/^\ (\d{3}\) \d{3}-\d{4}$/
```



# Practice Problem SOLUTIONS

## 4. Social Security numbers.

POSIX format:

```
/^[[:digit:]]{3}-[[:digit:]]{2}-[[:digit:]]{4}$/
```

PCRE format:

```
/^\d{3}-\d{2}-\d{4}$/
```



```
C:\xampp\htdocs\CIS 4004\CNT 4714\regex practice problems solutions.php - Notepad++
File Edit Search View Encoding Language Settings Macro Run TextFX Plugins Window ?
using the isset() function.php fom.html regex practice problems solutions.php
12 <?php
13 //POSIX versions first - note that ereg is deprecated in PHP
14 print("<div>POSIX versions</div>");
15 print("<div>1. Credit card numbers in the format 9999-9999-9999-9999.</div>");
16 $regex = "/^[[[:digit:]]{4}(-[[:digit:]]{4}){3}$"/;
17 print("The POSIX regex is: $regex <br />");
18 print("Test Cases: <br/>");
19 $testpattern1 = '3459-2345-9876-3432';
20 $testpattern2 = '3453-222-2345-3454';
21 if ( preg_match($regex, $testpattern1) ){
22     print("You've entered a valid credit card number $testpattern1 <br />");
23 } else {
24     print("The credit card number: $testpattern1 is invalid <br />");
25 }
26 if ( preg_match($regex, $testpattern2) ){
27     print("You've entered a valid credit card number $testpattern2 <br />");
28 } else {
29     print("The credit card number: $testpattern2 is invalid <br />");
30 }
31 print("<br /><br /><div>2. Zip codes either 5 digit or 9 digit formats </div>");
```

length : 5950 lines : 162 Ln : 88 Col : 33 Sel : 0 UNIX ANSI INS

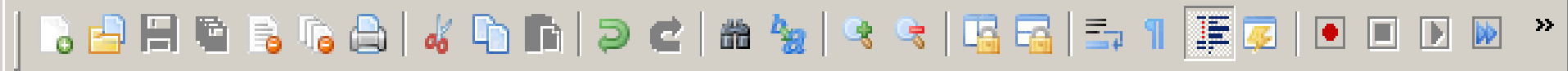


```

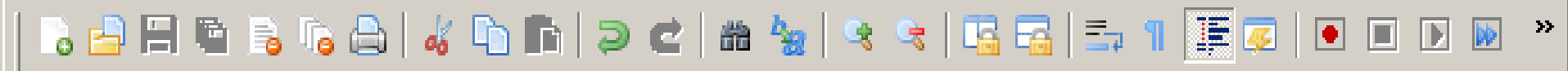
31     print("<br /><br /><div>2. Zip codes either 5 digit or 9 digit formats.</div>");
32     $regex = "/^[[[:digit:]]{5}(-[[:digit:]]{4})?$/";
33     print("The POSIX regex is: $regex <br />");
34     $testpattern1 = '32816';
35     $testpattern2 = '32816-2362';
36     $testpattern3 = '234-345';
37     print("Test Cases: <br/>");
38     if ( preg_match($regex, $testpattern1) ){
39         print("You've entered a valid zipcode $testpattern1 <br />");
40     } else {
41         print("The zipcode: $testpattern1 is invalid <br />");
42     }
43     if ( preg_match($regex, $testpattern2) ){
44         print("You've entered a valid zipcode $testpattern2 <br />");
45     } else {
46         print("The zipcode: $testpattern2 is invalid <br />");
47     }
48     if ( preg_match($regex, $testpattern3) ){
49         print("You've entered a valid zipcode $testpattern3 <br />");
50     } else {
51         print("The zipcode: $testpattern3 is invalid <br />");
52     }
53     print("<br /><br /><div>3. Phone numbers in the format (area code) five number

```





```
53     print("<br /><br /><div>3. Phone numbers in the format (area-code)prefix-number.<
54     $regex = "/^\ ([[[:digit:]]{3}\) [[[:digit:]]{3}-[[[:digit:]]{4}$/" ;
55     print("The POSIX regex is: $regex <br />");
56     print("Test Cases: <br/>");
57     $testpattern1 = '(407)823-2790';
58     $testpattern2 = '407-823-2790';
59     if ( preg_match($regex, $testpattern1) ){
60         print("You've entered a valid phone number: $testpattern1 <br />");
61     } else {
62         print("The phone number: $testpattern1 is invalid <br />");
63     }
64     if ( preg_match($regex, $testpattern2) ){
65         print("You've entered a valid phone number $testpattern2 <br />");
66     } else {
67         print("The phone number: $testpattern2 is invalid <br />");
68     }
69     print("<br /><br /><div>4. Social Security Numbers </div>";
```



```
69     print("<br /><br /><div>4. Social Security Numbers.</div>");
70     $regex = "/^[[[:digit:]]{3}-[[[:digit:]]{2}-[[[:digit:]]{4}$"/;
71     print("The POSIX regex is: $regex <br />");
72     print("Test Cases: <br/>");
73     $testpattern1 = '123-45-6789';
74     $testpattern2 = '140-34-790';
75     if ( preg_match($regex, $testpattern1) ){
76         print("You've entered a valid SSN: $testpattern1 <br />");
77     } else {
78         print("The SSN: $testpattern1 is invalid <br />");
79     }
80     if ( preg_match($regex, $testpattern2) ){
81         print("You've entered a valid SSN $testpattern2 <br />");
82     } else {
83         print("The SSN: $testpattern2 is invalid <br />");
84     }
85     //PCRE versions using preg() function
```

**Solutions to Practice Regex Problems - Opera**

Menu Solutions to Practice Reg... Solutions to Practice Reg... +

localhost/CIS%204004/CNT%204714/regex%20practi Search with Google

### POSIX versions

#### 1. Credit card numbers in the format 9999-9999-9999-9999.

The POSIX regex is:  `/^[[:digit:]]{4}-[[:digit:]]{4}}{3}$/`

Test Cases:

You've entered a valid credit card number 3459-2345-9876-3432

The credit card number: 3453-222-2345-3454 is invalid

#### 2. Zip codes either 5 digit or 9 digit formats.

The POSIX regex is:  `/^[[:digit:]]{5}(-[[:digit:]]{4})?$/`

Test Cases:

You've entered a valid zipcode 32816

You've entered a valid zipcode 32816-2362

The zipcode: 234-345 is invalid

#### 3. Phone numbers in the format (area-code)prefix-number.

The POSIX regex is:  `/^[\([[:digit:]]{3}\)[[:digit:]]{3}-[[:digit:]]{4}$/`

Test Cases:

You've entered a valid phone number: (407)823-2790

The phone number: 407-823-2790 is invalid

#### 4. Social Security Numbers.

The POSIX regex is:  `/^[[:digit:]]{3}-[[:digit:]]{2}-[[:digit:]]{4}$/`

Test Cases:

You've entered a valid SSN: 123-45-6789

The SSN: 140-34-790 is invalid

View (100%)



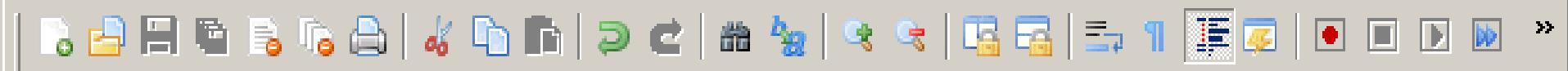


```
85 //PCRE versions - using preg() function
86 print("<br /><br /><br /><div>PCRE versions</div>");
87 print("<div>1. Credit card numbers in the format 9999-9999-9999-9999.</div>");
88 $regex = "/^\d{4}(-\d{4}){3}$/";
89 print("The PCRE regex is: $regex <br />");
90 print("Test Cases: <br/>");
91 $testpattern1 = '3459-2345-9876-3432';
92 $testpattern2 = '3453-222-2345-3454';
93 if ( preg_match($regex, $testpattern1) ){
94     print("You've entered a valid credit card number $testpattern1 <br />");
95 } else {
96     print("The credit card number: $testpattern1 is invalid <br />");
97 }
98 if ( preg_match($regex, $testpattern2) ){
99     print("You've entered a valid credit card number $testpattern2 <br />");
100 } else {
101     print("The credit card number: $testpattern2 is invalid <br />");
102 }
```

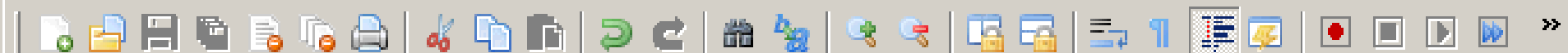


```
103     print("<br /><br /><div>2. Zip codes either 5 digit or 9 digit formats.</div>");
104     $regex = "/^\d{5}(-\d{4})?$/";
105     print("The PCRE regex is: $regex <br />");
106     $testpattern1 = '32816';
107     $testpattern2 = '32816-2362';
108     $testpattern3 = '234-345';
109     print("Test Cases: <br/>");
110     if ( preg_match($regex, $testpattern1) ){
111         print("You've entered a valid zipcode $testpattern1 <br />");
112     } else {
113         print("The zipcode: $testpattern1 is invalid <br />");
114     }
115     if ( preg_match($regex, $testpattern2) ){
116         print("You've entered a valid zipcode $testpattern2 <br />");
117     } else {
118         print("The zipcode: $testpattern2 is invalid <br />");
119     }
120     if ( preg_match($regex, $testpattern3) ){
121         print("You've entered a valid zipcode $testpattern3 <br />");
122     } else {
123         print("The zipcode: $testpattern3 is invalid <br />");
124     }
```





```
125     print("<br /><br /><div>3. Phone numbers in the format (area-code)prefix-number.<
126     $regex = "/^\(\d{3}\)\d{3}-\d{4}$/";
127     print("The PCRE regex is: $regex <br />");
128     print("Test Cases: <br/>");
129     $testpattern1 = '(407)823-2790';
130     $testpattern2 = '407-823-2790';
131     if ( preg_match($regex, $testpattern1) ){
132         print("You've entered a valid phone number: $testpattern1 <br />");
133     } else {
134         print("The phone number: $testpattern1 is invalid <br />");
135     }
136     if ( preg_match($regex, $testpattern2) ){
137         print("You've entered a valid phone number $testpattern2 <br />");
138     } else {
139         print("The phone number: $testpattern2 is invalid <br />");
140     }
```



```
140     }
141     print("<br /><br /><div>4. Social Security Numbers.</div>");
142     $regex = "/^\d{3}-\d{2}-\d{4}$/";
143     print("The PCRE regex is: $regex <br />");
144     print("Test Cases: <br/>");
145     $testpattern1 = '123-45-6789';
146     $testpattern2 = '140-34-790';
147     if ( preg_match($regex, $testpattern1) ){
148         print("You've entered a valid SSN: $testpattern1 <br />");
149     } else {
150         print("The SSN: $testpattern1 is invalid <br />");
151     }
152     if ( preg_match($regex, $testpattern2) ){
153         print("You've entered a valid SSN $testpattern2 <br />");
154     } else {
155         print("The SSN: $testpattern2 is invalid <br />");
156     }
157
```



Solutions to Practice Regex Problems - Opera

Menu Solutions to Practice Reg... Solutions to Practice Reg... +

localhost/CIS%204004/CNT%204714/regex%20practi Search with Google

### PCRE versions

#### 1. Credit card numbers in the format 9999-9999-9999-9999.

The PCRE regex is: `/^\d{4}(-\d{4}){3}$/`  
Test Cases:  
You've entered a valid credit card number 3459-2345-9876-3432  
The credit card number: 3453-222-2345-3454 is invalid

#### 2. Zip codes either 5 digit or 9 digit formats.

The PCRE regex is: `/^\d{5}(-\d{4})?$/`  
Test Cases:  
You've entered a valid zipcode 32816  
You've entered a valid zipcode 32816-2362  
The zipcode: 234-345 is invalid

#### 3. Phone numbers in the format (area-code)prefix-number.

The PCRE regex is: `/^\(\d{3}\)\d{3}-\d{4}$/`  
Test Cases:  
You've entered a valid phone number: (407)823-2790  
The phone number: 407-823-2790 is invalid

#### 4. Social Security Numbers.

The PCRE regex is: `/^\d{3}-\d{2}-\d{4}$/`  
Test Cases:  
You've entered a valid SSN: 123-45-6789  
The SSN: 140-34-790 is invalid

View (100%)

