**CS 3421 Week 10 Problems: Perl Regular Expressions**

**1.** Create a Perl-compatible regular expression for validating passwords with the following criteria:

* At least 8 characters in length
* No more than 32 characters in length
* No tabs, newlines, or spaces

**2.** Fill in the chart.

|  |  |  |  |
| --- | --- | --- | --- |
| **#** | **String** | **Pattern** | **$1** |
| 1 | aaa.aaa.aaa | /(a\*)/ |  |
| 2 | aaa.aaa.aaa | /(a\*?)/ |  |
| 3 | aaa.aaa.aaa | /(a\*?)./ |  |
| 4 | aaa.aaa.aaa | /(a\*?)\./ |  |
| 5 | aaa.aaa.aaa | /a(.\*)./ |  |
| 6 | aaa.aaa.aaa | /a(.\*?)./ |  |

**3.** Create a Perl-compatible regular expression for matching valid URLs with the following criteria:

* May begin with either http:// or https://
* Must have a host name containing letters, numbers, hyphens, or dots
* Host name must end with a dot followed by 2 and 4 letters (e.g., .us, .com, .tech, etc)
* Optional path must begin with a / and can contain letters, numbers, hyphens, underscores, dots, or forward slashes (e.g., /home/index.html, /home, etc)
* Example: <http://cs.utsa.edu/home/some_page.html>

**4.** Modify the regular expression in the previous example to be able to take an arbitrary amount of URL parameters with the following criteria:

* May end in arbitrary amount of URL parameters beginning with ? and delimited by & (e.g., ?var1=2&greeting=hello&color=blue). Each variable must be of the form var=value
* Parameters must be of the form var=value
* Entire set of parameters must begin with a question mark
* Each parameter must be delimited with an ampersand
* Example: http://cs.utsa.edu/home/some\_page.html**?var1=2&greeting=hello&color=blue**

**The following should *not* meet the requirements**

* test.com?var1=a?var2=b (question mark between variables)
* test.com?var=? (question marks or ampersands as variables or values)
* test.com?var1=a&var2=b?var3=c (second question mark)
* test.com?var1=var2=var3 (no variable assignment)