IT350 Web and Internet Programming

SlideSet #14: Perl Misceleanous

(see online references)

Outline

- Multiple files
- Regular expressions
- Search and Replace
- Read from file into an array
- Update the file
- Customized sort

References, and Multiple Files

References:

```
@array = (1, 2, 3);
$ref_array = \@array;
@array2 = @$ref_array;

print "\nfrom ref:    " . $$ref_array[1];
print "\nfrom array: " . $array[1];
```

Multiple Perl Files:

```
require "question_struct.pl";
```

- **Be sure not to use same names (e.g., function names) in different files!**
- **The file to include needs 1; on the last line**

Regular Expressions and Matching Operator

```
1  #!C:\Perl\bin\perl
2  # Fig 25.7: fig25_07.pl
3  # Searches using the matching operator and regular expressions.
4
5  $search = "Now is is the time";
6  print( "Test string is: '$search'\n\n" );
7
8  if ( $search =~ /Now/ ) {
9     print( "String 'Now' was found.\n" );
10 }
11
12 if ( $search =~ /^Now/ ) {
13    print( "String 'Now' was found at the beginning of the line." );
14    print( "\n" );
15 }
16
17 if ( $search =~ /Now$/ ) {
18    print( "String 'Now' was found at the end of the line.\n" );
19 }
20
21 if ( $search =~ /\b ( \w+ ow ) \b/x ) {
22    print( "Word found ending in 'ow': $1 \n" );
23 }
24
25 if ( $search =~ /\b ( \w+ ) \s ( \1 ) \b/x ) {
26    print( "Repeated words found: $1 $2\n" );
27 }
28
```

Regular Expression Quantifiers and Metacharactes

Quantifier	Matches
{n}	Exactly n times
{m,n}	Between m and n times inclusive
{n,}	n or more times
+	One or more times (same as {1,})
*	Zero or more times (same as {0,})
?	One or zero times (same as {0,1})

Fig. 25.8 Some of Perl's quantifiers.

Symbol	Matches	Symbol	Matches
^	Beginning of line	\d	Digit (i.e., 0 to 9)
$	End of line	\D	Nondigit
\b	Word boundary	\s	Whitespace
\B	Nonword boundary	\S	Nonwhitespace
\w	Word (alphanumeric) character	\n	Newline
\W	Nonword character	\t	Tab

Fig. 25.9 Some of Perl's metacharacters.

Search and Replace

- $string =~ s/regex/replacement/g ;

- Example (replace aa with bb):
- $string = “This string has aa here and aa here”
- $string =~ s/aa/bb/g;

Exercise

- Write the expression to replace one or more newline characters in a string with “&&”.

File Updates

```
… #standard header stuff here
$filename = “myFile.txt”;
open (FILE, $filename) or print(“Could not open file $filename
   for read”);
my @fileLines = <FILE>; #reads entire file into array
close (FILE);
open (OUTFILE, “> $filename”) or print(“Could not open file
   $filename for write”);
#read each line and find the one we are looking for
my $aLine;
foreach $aLine (@fileLines){
   chomp ($aLine);
   if ($aLine =~ /something/){
        #either modify the line and write it to file
        #or just skip the line (to delete it from file)
   }
   else{ print OUTFILE $aLine.”\n”;}
}
close (OUTFILE);
```

Sort

```
… #usual prelude here
my @theList = (4, 1, 2, 6, 93, 2, 65);
print p("Initial list @theList\n");
my @theSortedList = sort @theList;
print p("Sorted list @theSortedList\n");
my @theReversedSortedList = sort {$b <=> $a} @theList;
print p("Sorted list on reverse @theReversedSortedList\n");

# $a, $b params: return < 0 if $a<$b, 0 if $a=$b, >0 if $a>$b
sub compareReversed($$){
   my ($a, $b) = @_;
   return $b-$a;
}
my @theReversedSortedList2 = sort compareReversed @theList;
print p("Sorted list on reverse @theReversedSortedList2\n");

print end_html();
```