

# CONTENTS IN DETAIL

## ACKNOWLEDGMENTS

xvii

## 1 INTRODUCTION TO PERL ONE-LINERS 1

## 2 SPACING 7

2.1 Double-space a file . . . . .	7
2.2 Double-space a file, excluding the blank lines . . . . .	11
2.3 Triple-space a file . . . . .	11
2.4 N-space a file . . . . .	12
2.5 Add a blank line before every line . . . . .	12
2.6 Remove all blank lines . . . . .	12
2.7 Remove all consecutive blank lines, leaving only one . . . . .	14
2.8 Compress/expand all blank lines into N consecutive lines . . . . .	14
2.9 Double-space between all words . . . . .	15
2.10 Remove all spacing between words . . . . .	15
2.11 Change all spacing between words to one space . . . . .	16
2.12 Insert a space between all characters . . . . .	16

## 3 NUMBERING 17

3.1 Number all lines in a file . . . . .	17
3.2 Number only non-empty lines in a file . . . . .	18
3.3 Number and print only non-empty lines in a file (drop empty lines) . . . . .	19
3.4 Number all lines but print line numbers only for non-empty lines . . . . .	20
3.5 Number only lines that match a pattern; print others unmodified . . . . .	20
3.6 Number and print only lines that match a pattern . . . . .	21
3.7 Number all lines but print line numbers only for lines that match a pattern . . . . .	21
3.8 Number all lines in a file using a custom format . . . . .	22
3.9 Print the total number of lines in a file (emulate wc -l) . . . . .	22
3.10 Print the number of non-empty lines in a file . . . . .	24
3.11 Print the number of empty lines in a file . . . . .	25
3.12 Print the number of lines in a file that match a pattern (emulate grep -c) . . . . .	25
3.13 Number words across all lines . . . . .	26
3.14 Number words on each individual line . . . . .	26
3.15 Replace all words with their numeric positions . . . . .	27

<b>4</b>		
<b>CALCULATIONS</b>		<b>29</b>
4.1 Check if a number is a prime . . . . .	29	
4.2 Print the sum of all fields on each line . . . . .	30	
4.3 Print the sum of all fields on all lines . . . . .	31	
4.4 Shuffle all fields on each line . . . . .	32	
4.5 Find the numerically smallest element (minimum element) on each line . . . . .	33	
4.6 Find the numerically smallest element (minimum element) over all lines . . . . .	33	
4.7 Find the numerically largest element (maximum element) on each line . . . . .	35	
4.8 Find the numerically largest element (maximum element) over all lines. . . . .	35	
4.9 Replace each field with its absolute value . . . . .	36	
4.10 Print the total number of fields on each line . . . . .	36	
4.11 Print the total number of fields on each line, followed by the line . . . . .	37	
4.12 Print the total number of fields on all lines . . . . .	37	
4.13 Print the total number of fields that match a pattern. . . . .	38	
4.14 Print the total number of lines that match a pattern . . . . .	38	
4.15 Print the number $\pi$ . . . . .	39	
4.16 Print the number $e$ . . . . .	39	
4.17 Print UNIX time (seconds since January 1, 1970, 00:00:00 UTC) . . . . .	39	
4.18 Print Greenwich Mean Time and local computer time . . . . .	40	
4.19 Print yesterday's date . . . . .	41	
4.20 Print the date 14 months, 9 days, and 7 seconds ago. . . . .	41	
4.21 Calculate the factorial . . . . .	41	
4.22 Calculate the greatest common divisor . . . . .	42	
4.23 Calculate the least common multiple . . . . .	43	
4.24 Generate 10 random numbers between 5 and 15 (excluding 15) . . . . .	43	
4.25 Generate all permutations of a list . . . . .	44	
4.26 Generate the powerset . . . . .	45	
4.27 Convert an IP address to an unsigned integer . . . . .	45	
4.28 Convert an unsigned integer to an IP address . . . . .	47	
<b>5</b>		
<b>WORKING WITH ARRAYS AND STRINGS</b>		<b>49</b>
5.1 Generate and print the alphabet . . . . .	49	
5.2 Generate and print all the strings from "a" to "zz" . . . . .	50	
5.3 Create a hex lookup table . . . . .	51	
5.4 Generate a random eight-character password . . . . .	51	
5.5 Create a string of specific length . . . . .	52	
5.6 Create an array from a string . . . . .	52	
5.7 Create a string from the command-line arguments . . . . .	53	
5.8 Find the numeric values for characters in a string . . . . .	53	
5.9 Convert a list of numeric ASCII values into a string . . . . .	55	
5.10 Generate an array with odd numbers from 1 to 100 . . . . .	55	
5.11 Generate an array with even numbers from 1 to 100 . . . . .	56	
5.12 Find the length of a string . . . . .	56	
5.13 Find the number of elements in an array . . . . .	56	

<b>6</b>	<b>TEXT CONVERSION AND SUBSTITUTION</b>	<b>59</b>
6.1	ROT13 a string . . . . .	59
6.2	Base64-encode a string . . . . .	60
6.3	Base64-decode a string . . . . .	61
6.4	URL-escape a string . . . . .	61
6.5	URL-unescape a string . . . . .	61
6.6	HTML-encode a string . . . . .	62
6.7	HTML-decode a string . . . . .	62
6.8	Convert all text to uppercase . . . . .	62
6.9	Convert all text to lowercase . . . . .	62
6.10	Uppercase only the first letter of each line . . . . .	63
6.11	Invert the letter case . . . . .	63
6.12	Title-case each line . . . . .	63
6.13	Strip leading whitespace (spaces, tabs) from the beginning of each line . . . . .	64
6.14	Strip trailing whitespace (spaces, tabs) from the end of each line . . . . .	64
6.15	Strip whitespace (spaces, tabs) from the beginning and end of each line . . . . .	64
6.16	Convert UNIX newlines to DOS/Windows newlines . . . . .	65
6.17	Convert DOS/Windows newlines to UNIX newlines . . . . .	65
6.18	Convert UNIX newlines to Mac newlines . . . . .	65
6.19	Substitute (find and replace) "foo" with "bar" on each line . . . . .	66
6.20	Substitute (find and replace) "foo" with "bar" on lines that match "baz" . . . . .	66
6.21	Print paragraphs in reverse order . . . . .	66
6.22	Print all lines in reverse order . . . . .	67
6.23	Print columns in reverse order . . . . .	67
<b>7</b>	<b>SELECTIVELY PRINTING AND DELETING LINES</b>	<b>69</b>
7.1	Print the first line of a file (emulate head -1) . . . . .	70
7.2	Print the first 10 lines of a file (emulate head -10) . . . . .	70
7.3	Print the last line of a file (emulate tail -1) . . . . .	71
7.4	Print the last 10 lines of a file (emulate tail -10) . . . . .	72
7.5	Print only lines that match a regular expression . . . . .	72
7.6	Print only lines that do not match a regular expression . . . . .	73
7.7	Print every line preceding a line that matches a regular expression . . . . .	73
7.8	Print every line following a line that matches a regular expression . . . . .	74
7.9	Print lines that match regular expressions AAA and BBB in any order . . . . .	75
7.10	Print lines that don't match regular expressions AAA and BBB . . . . .	75
7.11	Print lines that match regular expression AAA followed by BBB followed by CCC . . . . .	75
7.12	Print lines that are at least 80 characters long . . . . .	76
7.13	Print lines that are fewer than 80 characters long . . . . .	76
7.14	Print only line 13 . . . . .	76
7.15	Print all lines except line 27 . . . . .	76
7.16	Print only lines 13, 19, and 67 . . . . .	77
7.17	Print all lines from 17 to 30 . . . . .	77
7.18	Print all lines between two regular expressions (including the lines that match) . . . . .	78

7.19	Print the longest line . . . . .	78
7.20	Print the shortest line . . . . .	79
7.21	Print all lines containing digits . . . . .	79
7.22	Print all lines containing only digits. . . . .	79
7.23	Print all lines containing only alphabetic characters . . . . .	80
7.24	Print every second line . . . . .	80
7.25	Print every second line, beginning with the second line . . . . .	80
7.26	Print all repeated lines only once . . . . .	81
7.27	Print all unique lines . . . . .	81

## **8 USEFUL REGULAR EXPRESSIONS 83**

8.1	Match something that looks like an IP address . . . . .	83
8.2	Test whether a number is in the range 0 to 255 . . . . .	84
8.3	Match an IP address . . . . .	85
8.4	Check whether a string looks like an email address . . . . .	86
8.5	Check whether a string is a number . . . . .	87
8.6	Check whether a word appears in a string twice . . . . .	88
8.7	Increase all integers in a string by one . . . . .	89
8.8	Extract the HTTP User-Agent string from HTTP headers. . . . .	89
8.9	Match printable ASCII characters . . . . .	90
8.10	Extract text between two HTML tags . . . . .	90
8.11	Replace all <b> tags with <strong> . . . . .	91
8.12	Extract all matches from a regular expression. . . . .	92

## **A PERL'S SPECIAL VARIABLES 95**

A.1	Variable \$_ . . . . .	95
	Using \$_ with the -n argument . . . . .	96
	Using \$_ with the -p argument . . . . .	97
	Using \$_ explicitly . . . . .	98
A.2	Variable \$. . . . .	99
A.3	Variable \$/ . . . . .	100
A.4	Variable \$\ . . . . .	101
A.5	Variables \$1, \$2, \$3, and so on . . . . .	101
A.6	Variable \$, . . . . .	102
A.7	Variable \$" . . . . .	102
A.8	Variable @F . . . . .	103
A.9	Variable @ARGV . . . . .	103
A.10	Variable %ENV . . . . .	104

## **B USING PERL ONE-LINERS ON WINDOWS 105**

B.1	Perl on Windows . . . . .	105
B.2	Bash on Windows . . . . .	106

B.3	Perl One-Liners in Windows Bash . . . . .	107
B.4	Perl One-Liners in the Windows Command Prompt . . . . .	108
	Converting One-Liners in the Windows Command Prompt . . . . .	108
	Symbol Challenges . . . . .	110
	Windows File Paths . . . . .	111
B.5	Perl One-Liners in PowerShell . . . . .	111
	Converting One-Liners in PowerShell . . . . .	112
	One-Liners in PowerShell 3.0+ . . . . .	114

**C**  
**PERL1LINE.TXT** **117**

C.1	Spacing . . . . .	117
C.2	Numbering . . . . .	119
C.3	Calculations . . . . .	121
C.4	Working with Arrays and Strings . . . . .	127
C.5	Text Conversion and Substitution . . . . .	130
C.6	Selectively Printing and Deleting Lines . . . . .	133
C.7	Useful Regular Expressions . . . . .	136

**INDEX** **139**