

Contents

Part 1 Introduction and background	<i>page</i> 1
1.1 Introduction	3
1.2 How to use this book	6
Part 2 Installing Unix and Perl	9
2.1 What do I need in order to learn Unix and Perl?	11
2.2 Installing Linux on a PC	13
2.3 Installing a code editor	15
Part 3 Essential Unix	17
3.1 Introduction to Unix	19
3.2 The Unix terminal	20
3.3 The Unix command prompt	22
3.4 Your first Unix command	24
3.5 The hierarchy of a Unix filesystem	26
3.6 Finding out where you are in the filesystem	28
3.7 How to navigate a Unix filesystem	29
3.8 Absolute and relative paths	32
3.9 Working with your home directory	34
3.10 The Unix shell	36
3.11 Environment variables	38
3.12 Introduction to command-line options	40
3.13 Man pages	44
3.14 Working with directories	47
3.15 The importance of saving keystrokes	50
3.16 Moving and renaming files	55
3.17 Moving and renaming directories	59
3.18 How to remove files	61
3.19 How to copy files and directories	63
3.20 Working with text files	68
3.21 Introduction to aliases	71
3.22 Editing text files	76
3.23 Automating Unix commands	80
3.24 How to hide files and find hidden files	83
3.25 Creating a configuration file	86
3.26 Programming with Unix	91
3.27 Unix file permissions	93
3.28 How to specify which directories contain programs	96
3.29 Creating useful shell scripts	100
3.30 Unix summary	103

Part 4 Essential Perl	105
4.1 Hello world	107
4.2 Scalar variables	110
4.3 Use warnings	114
4.4 Maths and functions	117
4.5 Perl vs. perl	123
4.6 Conditional statements	125
4.7 Use strict	132
4.8 Stopping programs	138
4.9 Working with strings	141
4.10 Dealing with special characters	147
4.11 Matching operators	149
4.12 The transliteration operator	156
4.13 List context	160
4.14 Introduction to Arrays	163
4.15 Array manipulation	169
4.16 The @ARGV array	176
4.17 Defined and undefined variables	180
4.18 Sorting	183
4.19 Introduction to loops	187
4.20 More loops	192
4.21 Loop control	197
4.22 Data input and output	202
4.23 Reading and writing files	207
4.24 Introduction to hashes	214
4.25 Working with hashes	220
4.26 Introduction to regular expressions	225
4.27 Regular expression metacharacters	227
4.28 Working with regular expressions	235
4.29 Interacting with other programs	241
4.30 Using functions and subroutines	246
4.31 Returning data from a subroutine	251
4.32 Part 4 summary	255
Part 5 Advanced Unix	257
5.1 Introduction to advanced Unix	259
5.2 Introduction to process control	263
5.3 The grep command	269
5.4 Viewing and controlling program output	274
5.5 Redirecting input and output	276
5.6 Standard error	282
5.7 Connecting commands with pipelines	285
5.8 Advanced text manipulation	289

Part 6 Advanced Perl	293
6.1 Regular expressions revisited	295
6.2 Function libraries	300
6.3 References and two-dimensional arrays	306
6.4 Records and other hash references	314
6.5 Using references with subroutines	319
6.6 Complex data structures	321
6.7 Adding command-line options	328
6.8 OOP basics	333
6.9 CPAN	340
Part 7 Programming topics	343
7.1 Debugging strategies	345
7.2 Common error messages	351
7.3 Code beautification	355
7.4 Abstraction	361
7.5 Data management	368
7.6 Documentation	377
7.7 Revision control	382
7.8 Working with other people's data	385
7.9 Getting help	389
<i>Appendix</i>	393
<i>Index</i>	410