Contents

Preface		*page* ix
1	**The smallest free number**	1
2	**A surpassing problem**	7
3	**Improving on saddleback search**	12
4	**A selection problem**	21
5	**Sorting pairwise sums**	27
6	**Making a century**	33
7	**Building a tree with minimum height**	41
8	**Unravelling greedy algorithms**	50
9	**Finding celebrities**	56
10	**Removing duplicates**	64
11	**Not the maximum segment sum**	73
12	**Ranking suffixes**	79
13	**The Burrows–Wheeler transform**	91
14	**The last tail**	102
15	**All the common prefixes**	112
16	**The Boyer–Moore algorithm**	117
17	**The Knuth–Morris–Pratt algorithm**	127
18	**Planning solves the Rush Hour problem**	136
19	**A simple Sudoku solver**	147
20	**The *Countdown* problem**	156
21	**Hylomorphisms and nexuses**	168
22	**Three ways of computing determinants**	180
23	**Inside the convex hull**	188

24 Rational arithmetic coding 198
25 Integer arithmetic coding 208
26 The Schorr–Waite algorithm 221
27 Orderly insertion 231
28 Loopless functional algorithms 242
29 The Johnson–Trotter algorithm 251
30 Spider spinning for dummies 258
Index 275