

Table of Listings

Listing 1-1: Coord.java	2
Listing 1-2: Unit.java	5
Listing 1-3: Row.java	6
Listing 1-4: Column.java	6
Listing 1-5: Box.java	6
Listing 1-6: Grid.java – Class Definition and reset()	8
Listing 1-7: Example: xFound()	9
Listing 1-8: Grid.java – Utility Methods	13
Listing 3-1: Solver.java – Definitions	37
Listing 3-2: Solver.main() – Deciding where to look for puzzles	39
Listing 3-3: Solver.main() – Solving a single puzzle	41
Listing 3-4: Grid.displaySolved()	42
Listing 3-5: Grid.displaySolved() – Output	43
Listing 3-6: Grid.displayCandidates() – Output	44
Listing 3-7: Grid.displayCandidates()	45
Listing 3-8: Grid.consistent()	46
Listing 3-9: Grid.consistentUnit()	47
Listing 3-10: Solver.main() – Solving many puzzles	49
Listing 3-11: Solver.solve()	51
Listing 3-12: StrategyArray.java	52
Listing 3-13: StrategyArray.executeStrategies() w/o displays	53
Listing 3-14: Solver.keepGoing()	54
Listing 3-15: Solver.sortString()	54
Listing 3-16: Strategy.java	57
Listing 4-1: Cleanup.java	60
Listing 4-2: Grid.removeCandidate()	62
Listing 5-1: Unique.java	65
Listing 6-1: NakedPair.java	69
Listing 6-2: NakedTriple.java	69
Listing 6-3: NakedQuad.java	69
Listing 6-4: Naked.java	73
Listing 7-1: HiddenPair.java	81
Listing 7-2: HiddenTriple.java	81
Listing 7-3: HiddenQuad.java	81
Listing 7-4: Hidden.java	85
Listing 8-1: BoxLine.java	92
Listing 9-1: PointingLine.java	97
Listing 10-1: Lines2.java	102
Listing 10-2: Lines3.java	104
Listing 10-3: Lines4.java	105

x Table of Listings

Listing 10-4: Lines.java	107
Listing 11-1: Pairs.java	111
Listing 11-2: Grid.findPairs()	113
Listing 11-3: ChainStrategy.java	114
Listing 11-4: Grid.footprint()	115
Listing 11-5: Grid.intersection()	116
Listing 11-6: Grid.listPairs()	117
Listing 11-7: Grid.displayPairs()	118
Listing 11-8: YWing.java	121
Listing 11-9: XYChain.java	129
Listing 11-10: ChainLink.java	130
Listing 11-11: Grid.listPairs() – Output	134
Listing 12-1: Rectangle.java	140
Listing 13-1: Solver.backtrack()	156
Listing 13-2: A backtracking log	160
Listing 13-3: The log of a wrong choice when backtracking	164
Listing 14-1: Grid methods for graphics	167
Listing 14-2: Grid.saveToFile()	168
Listing 14-3: Grid.saveHtml()	170
Listing 14-4: Grid.saveHtml() - Output	172
Listing 15-1: Grid.java	179
Listing 15-2: Generator.java – Overall structure	181
Listing 15-3: Def.java	181
Listing 15-4: Generator.main() – Generating a completed Sudoku	182
Listing 15-5: Generator.main() – Completing the puzzle creation	192
Listing 15-6: PuzzleGrid.removeQuads()	195
Listing 15-7: PuzzleGrid.removePairs()	198
Listing 15-8: PuzzleGrid.java – Removing individual clues	203
Listing 15-9: PuzzleGrid – Brute force methods	206
Listing 15-10: PuzzleGrid.java – Consistency methods	207
Listing 15-11: Tracking brute()	209
Listing 15-12: PuzzleGrid.checkUnicity()	212
Listing 15-13: PuzzleGrid.countSolved()	213
Listing 16-1: Calculating the number of parameter combinations	227
Listing 17-1: Generator.main() – Code for patterns	230
Listing 18-1: The pattern for a bullseye Sudoku	237
Listing 18-2: Samurai.main()	242
Listing 18-3: Samurai.java – Utility methods	245
Listing 18-4: Samurai.displayClassic() – Output	246
Listing 18-5: Samurai.displaySamurai() - Output	246