

10/22/13

10/23/13

Intro

ONE RULE

3 additional rules

≤ 30 clues (of 81 Possible)

symmetry 180°

unique answer

TERMINOLOGY

cell row numbered 1-9

column " " "

box numbered 1-9

big rows big columns

numbered 1-3

buddies

"NO TWO BUDDIES are the SAME"

~~cell~~ names of cells

11 12 - - - 19
21 - - - 29
:
91 - - - 99

candidates

chapter 1

pp 11-12-13

ONE CHOICE

(called FORCED CELL in "textbook")

Example 2 on p. 12 can be solved using only "one choice"

(This would be the first step in an algorithm)

In this book the examples will always have all the candidates pencilled in. What is wrong with this approach? (inefficient, time consuming)

Example 2 is done again using "candidates"

Exercises 1-12 p. 15-16

Exercise 1 scanned done in 10:45

scanned 9 min 34 sec

↑ scanned & used
"fill in pencil marks"
IT WORKS

Chapter 2
pp 17-22

2nd Basic Strategy
Scanning

A big Row with three rows - 2 copies of a number
OR A big Column - 2 copies of a number

Exercises 13-24 pp 23-24

Example 3 is the only example

Scanned #13 7:03 using Hint - Fill in pencil marks

Third Basic Strategy - Eliminate all other possible cells in a house

Chapter 3
pp 25-29

Elimination - after one choice & scanning are exhausted

Now you put in some (or all?) candidates

This will give you some entries - then you can go back to scanning one-choice. This may be sufficient to finish the puzzle. Examples 4 & 5 are solved this way

The three basic Strategies will solve so called "easy" puzzles

Scanned #25 gave up - mistakes!

Exercises 25-36 pp 30-31

Chapter 4
pp 33-39

Subsets

pairs

you are really eliminating some, ~~not really~~ candidates!

For this to work you need all the candidates in a Row or a column or a box

Example 6

triplets

Example 7

possible $XYZ-XYZ-XYZ$ $XYZ-XYZ-XY$ $XYZ-XY-YZ$
and $XY-YZ-XZ$

quadruplets

Example 8

second

first

You always start with one cell, scanning, elimination

these coincide sometimes (in boxes)

quintuplets

Example 9

(hidden pair in example 9-2 p. 38)

NICE summary of subsets

see p. 39

Exercises 37-48 pp 40-41

Scanned #37 24:11 using Hint = pencil marks

chapter 5
pp 43-44

Interaction

Example 10-1 p. 43 allows you
to eliminate ^{some} candidates in a ~~cell~~ "house"

Summary on p. 44

Exercises 49-60 pp 45-46

scanned #49 7:34 using hint - fill in pencil marks.

chapter 6
pp 47-50

Candidate-Free Solving (almost)

Examples 11 & 12 illustrate this

The key idea is at the bottom of p. 48

No exercises!

chapter 7
pp 51-56

The X-wing family

X-wing Example 13 p. 51-52

Swordfish Example 14 p. 52-54

Jellyfish Example 15 p. 54-55

Squirmbag Example 16 p. 56

Exercises 61-72 pp 57-58

summary

First use basic strategies & write in candidates (use hint if electronic)

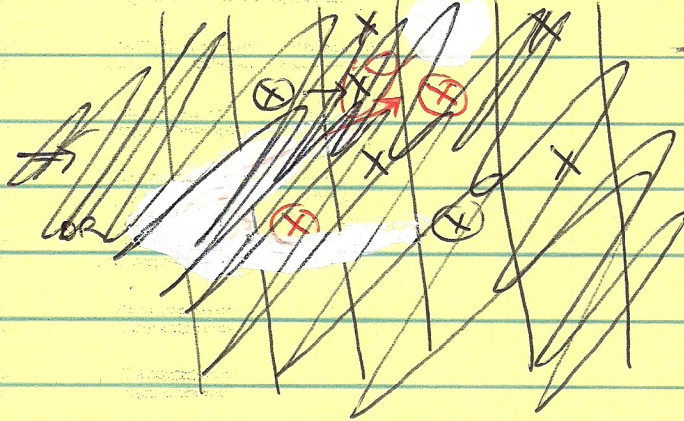
X-wing

in 2 ~~columns~~ ^{columns} a particular candidate appears in 2 ~~rows~~ ^{only (exactly)} rows

R2

R4

	C3		X		X
R2	X	X	X	X	X
		X			X
R4	X		X		



Then you can
eliminate X
from the other
columns in
these 2
rows

X-wing using rows - in 2 rows a particular candidate appears in only 2 columns (exactly)

		c5	c6	
R1		X	X	X
		X		X
			X	X
R4		X	X	

Then you can eliminate X from the other rows in these 2 columns.

Swordfish (example 14-4)

	c1	c4	c7	
R2		X	X	
		X	X	
R5	X	X	X	
	X			
R8	X	X	X	

In 3 rows, a particular candidate appears in only (at most) 3 columns

Then you can eliminate X from the other rows in these 3 columns.

2 or 3 columns because if only 1 it is a one-chance

Some cases are not possible e.g

X X
X X
X X

In 3 columns a particular candidate appears in

at most 3 rows

	c3	c5	c7	
R2	X	X	X	
		X	X	
R4		X	X	
		X	X	
R6		X	X	

Then you can eliminate X from the other columns in these 3 rows

Jellyfish

at example 15-2 p.55 you can use jellyfish

	c ₂	c ₆	c ₇	c ₉
	X	X		X
	X		X	X
R5			X	X
R6	X	X		
R7		X	X	
	X	X	X	X
R9	X			X

In 4 Rows a particular X candidate appears in at most 4 columns then you can eliminate X from the other rows in those 4 columns

see the paragraph at bottom of p.55 (left column) for the "at most" remark

Squirmbag

at Example 16-1 p.56 you can use squirmbag

	c ₁	c ₃	c ₄	c ₅	c ₉
		X			
		X			X
R5	X	X	X	X	X
R6	X	X			X
R7	X	X		X	X
R8		X	X		X
R9	X	X		X	

In 5 columns a particular X appears in at most 5 rows

Then you can eliminate X from the other columns in those 5 rows