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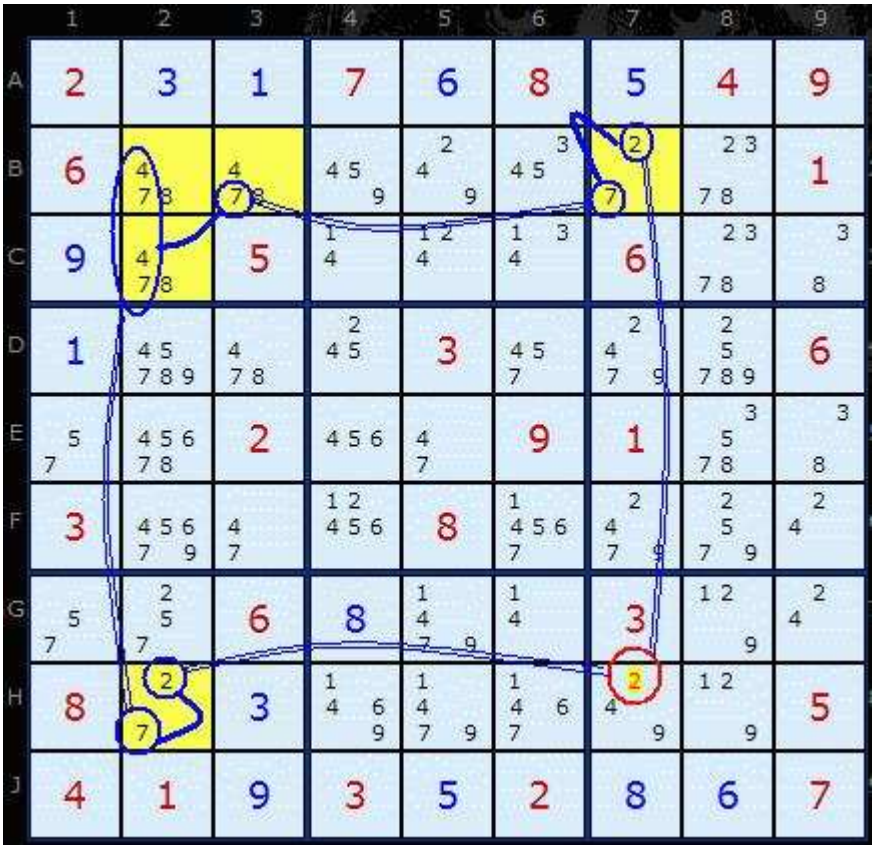
AIC with Groups

From sudokuwiki.com, the puzzle solver's site

Grouped nodes were discussed on the Grouped X-Cycles page and it is very relevant to Alternating Inference Chains. Luckily, there's nothing too scary about them although they maybe harder to spot

The example on the right shows a classic and relatively simple deduction based on a loop that is predominantly candidate 7. But the two bi-value cells H2 and B7 containing 2/7 allow us to form strong links that change the number we're tracing from 2 to 7 and then back from 7 to 2. We end up with two weak links pointing to H7, where the 2 can be removed, thanks to Nice Loop Rule 3. Our grouped node on B2/C3 acts just as a normal cell. The solver gives us:



Grouped AIC: Load Example or : From the Start

AIC Rule 1, 2 taken off H7 - chain ends: B7 H2
AIC on 2 (Grouped Alternating Inference Chain, length 6): 2[B7]=7[B7]-7[B3]=7[B2|C2]-7[H2]=2[H2]-

(Note: Solver strategies 29 and 30 needed to unticked for this result to appear)

Let's trace the logic of what's we've done:

- If B7 is 2, then H7 is not 2.
- If B7 is not 2, then B7 is 7, which makes B3 not 7. If B3 is not 7, then one of the cells in B2/C2 must be a 7 (certainly not B2, since we've temporarily placed 7 in B7, but that's by the by). If one of B2/C2 is a 7, then H2 can't be a 7 - which means that it must be a 2 (strong link internal to H2). Hey - we've just found out that H2 is a 2 if B7 is not a 2.

Therefore, H7 is not a 2.

More examples to follow shortly

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