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Jelly-Fish Strategy

From sudokuwiki.com, the puzzle solver's site

2			
	3	6	
5		7	

Jelly-Fish extends Swordfish one further row and column. We are looking for either

- four rows such that, in total, four cells are occupied in the row by a candidate number; or
- four columns such that, in total, four cells are occupied in the column by a candidate number

If this configuration is found then we can look in the opposite direction (if by row then down the column, if by column then across the row. If any candidates are found they can be eliminated. After the elimination both conditions above will hold.

2	3	4	5	6	7	8	9
23	2 7	4 8	4 5 ₉	2 4 5 8	6 9	4	1
8	1	3	2 4 9	7	6 9	5	4
2 5	4	1 6	2 5 6	1 2 5	3	7	8
1	78	2	3 4 7	6	4 7 8	9	5
2 3 4	9	4 7 8	1	4 8	4 ²	2 3 4	6
6	2 78	5	3 4 7	9	2 4 78	1	3 7
42	3	6 7	6 7	4	5	8	9
7	5	9	8	3	1	6	4
9	6	1 4	2 45	1 2 4 5	4	4 2 3	3 7
	23 5 8 25 1 4 6 4	23 2 7 8 1 2 5 4 4 1 78 9 6 2 78 4 2 3 7 5	23 2 4 8 8 8 1 3 3 1 6 7 5 9 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	23 2 4 2 4 2 9 8 1 3 4 9 2 4 1 6 2 6 1 7 2 4 7 4 9 4 1 1 6 2 5 4 3 7 3 6 7 6 7 5 9 8	23 2 4 4 8 1 3 4 4 9 2 4 1 6 4 9 4 1 4 6 4 1 4 4 4 3 4 3 7 9 8 3	23 2 4 4 5 4 6 9 8 1 3 4 7 6 9 2 4 6 56 12 3 1 7 8 2 4 3 6 4 4 9 4 1 4 4 4 7 6 2 7 4 9 4 7 7 5 7 5 9 8 3 1 2 1 2 2 4 3 6 7 6 4 5 5 4 7 7 5 7 7 5 3 1 1 2 1 2 2 2 2 2 2 3 1 1 2 1 2 2 2 2 2 3 1 2 1 2 1 2 2 2 2 2 2 2 3 1 3 3 1 3	23 2 4 2 45 6 4² 8 1 3 4² 7 6 5 2 4 1 6 56 12 3 7 1 78 2 4³ 6 4³ 9 4 9 4 1 4 4² 9 4 9 4 1 4 4² 9 4 9 4 1 4 4² 2 4² 4 3 7 4 9 4² 1 4 4² 2 23 4 3 7 7 4² 5 8 1 8 1 1 4 1 4 2 2 23 1 1 4 3 1 6 8 3 1 6 8 3 1 6 6 2 2 23 2 23 2 23 2 23 2 23 2 23 2 23<

Figure 1
Load This Example From the start or at the required point

How does it work? Pick any yellow cell in the example above that contains a 4. Keeping an eye on it. Pretend the solution actually is a 4. All others 4s in the row and columns are repressed. What we're left with is a Sword-Fish. The Sword-Fish logic then applies. Pick any 4 in the Sword-Fish and it reduces to an X-Wing. Since any combination of 4s on the grid are possible there is no room for 4s outside the grid - that align on the grid rows and columns.



Comments...

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Saturday 22-Aug-2009

... by: Philipp Huebner

Shouldn't John White's main sentence be: "If the overlap of these two groups contains all the possible candidates for any given number in one of the groups then you can remove all the candidates in the other group that are not in the overlapping area." (I added: "... in one of the groups ...")

Friday 24-Jul-2009

... by: John White

Jelly fish is a sub category of a more general system:

Take any group of N disjoint (not overlapping) sets(row,column or box) and compare them to any other group of N disjoint sets. If the overlap of these two groups contains all the possible candidates for any given number then you can remove all the candidates in the other group that are not in the overlapping area.

If N=2 you get X-Wing
If N=3 you get Swordfish
If N=4 you get Jellyfish

What this means is that you can extend all of these in the following ways:

A. You are not restricted to rows and colums.

B. As with X-Wing and Swordfish, you can 'Fin' Jellyfish.

C. Why stop at 4.....

(Finning: if all candidates from one of the groups that are not contained in the overlap can be contained by one more set (row, colum or box) (the set must not be in the original 2 groups!), then the candidates contained in overlap of this extra set and the second group can be removed.

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