

The hardest sudokus (new thread)

Re: The hardest sudokus (new thread)
Dby tarek » Sun Aug 18, 2019 11:55 am

There is no working on the representation of a pencilmark grid in a line format. The 729-character line representation has benefits but having delimiters will certainly shorten the lines in most cases. In the Sukaku explainer project we are standard on at the moment we are using the 729-character line and the multi line pencilmark grid. So it appears that the 729-character is becoming more of a standard as more people use it.

If you are using delimiters especially spaces may have issues with sharing and posting them as you can't control how the message board formats them. The 729-character line has less problems in the way.

We are currently working on a project on github to improve Sudoku explainer and allow rating of Sukaku. The puzzles I posted remain challenging without a rating as we speak because of the time required to process even a single elimination

Tarek

Dby Pat » Sun Aug 18, 2019 12:04 pm

denis_berthier wrote:
Is there any problem with spaces in a line?

I would use a colon (":")
to separate the cells

(as used in URL for dailysudoku)

Re:

Dby tarek » Sun Aug 18, 2019 1:06 pm

Pat wrote:
denis_berthier wrote:
Is there any problem with spaces in a line?

I would use a colon (":")
to separate the cells

(as used in URL for dailysudoku)

I'm hoping that the next release of Sukaku explainer will allow Pasting into GUI these multiple formats which in theory should allow pasting any pencilmark grid (sudoku or Sukaku) and continue solving/analysis from that point in the pencilmark grid

Re: The hardest sudokus (new thread)

Dby dobrichev » Sun Aug 18, 2019 3:40 pm

denis_berthier wrote:
Another question about these puzzles: has anyone finally found a solution to compute their SER?

No.

SE had one elimination technique at the bottom which failed to rate them. All known vanilla puzzles don't use it. This enforced us to make changes in the techniques beyond the ones that solve vanilla sudoku.

So far the extension gives some more eliminations but still fails to solve them.

In this context, at the moment we have an extension to SE which gives some number for a puzzle, but this shouldn't be considered as "SE rating" when technique beyond the old one is in use.

The 999 Springs example uses only old techniques and its result can be considered SER.

Technically SE now accepts 729-char pencilmarks as input, can dump the solving steps, and does ~17 hours processing on a 4-core machine to ensure the puzzle is beyond the implemented techniques.

Re: The hardest sudokus (new thread)

Dby blue » Mon Aug 19, 2019 6:49 am

Hi Denis,
denis_berthier wrote:
A more interesting question for me would now be: can one find a Sukaku not in B7B?

Tarek's "singles backdoor size 6" puzzles are all "TE[singles](4)" -- "in BBBB, but not in BBB". There were two more puzzles of interest, mentioned here:

RuudLeft4: in BBB, but not in BB
tareknasty1: in BBB, but not in BB

The others (with high SE ratings) were "TE[singles](2)", and so in BB. I can't say whether they're in B7B.

Cheers,
Blue.

Re: The hardest sudokus (new thread)

Dby denis_berthier » Mon Aug 19, 2019 1:03 pm

Hi Blue,

blue wrote:
denis_berthier wrote:
A more interesting question for me would now be: can one find a Sukaku not in B7B?

Tarek's "singles backdoor size 6" puzzles are all "TE[singles](4)" -- "in BBBB, but not in BBB". There were two more puzzles of interest, mentioned here:

RuudLeft4: in BBB, but not in BB
tareknasty1: in BBB, but not in BB

Thanks for your answer; it totally solves the question for me. Having Sukakus in T&E(4) or even T&E(3) - i.e. intractable - is enough to show that Sukakus can be terribly harder than Sudokus.

denis_berthier wrote:
The others (with high SE ratings) were "TE[singles](2)", and so in BB. I can't say whether they're in B7B.

If there are Sukakus in B3B, I have no doubt that there are also Sukakus in BpB for some $p > 7$. Unless anyone is interested in knowing about these two particular ones, I see no point in checking. I fear this also puts an end to my short-lived interest for the hardest Sukakus.

hello guys i am checkvil

Dby checkvileluri » Tue Aug 20, 2019 10:29 pm

i am Checkvil. This is my login on this forum. it is good ?

[Block header](#)

Re: The hardest sudokus (new thread)

Dby sxxxxxx » Mon Sep 02, 2019 4:50 am

new 11.7

CODE: SELECT ALL
120300000000070010004005000300000400000002003000000000000000080700300000000002500 ED=11.7/1.2/1.2

Re: The hardest sudokus (new thread)

Dby tarek » Mon Sep 02, 2019 7:41 am

This puzzle solved successfully in the Sukaku explainer and would get the following rating combination:

CODE: SELECT ALL
11.7/1.2/1.2 DCFc+DFC/HS/HS

with the hardest step at

CODE: SELECT ALL									
-----+-----+-----									
1	2	579	3	4689	4689	6789	4589	4567	
6	3589	359	24	7	489	2389	1	2345	
789	389	4	1268	1689	5	23678	2789	2367	
-----+-----+-----									
3	159	127	15678	15689	16789	4	2578	1267	
4579	6	1579	4578	2	14789	178	3	157	
2457	145	8	14567	1456	3	1267	257	9	
-----+-----+-----									
245	1345	136	9	1456	167	1237	247	8	
24589	7	1259	458	3	148	129	6	124	
489	13489	136	14678	1468	2	5	479	137	
-----+-----+-----									

Sudoku Grid

Hints classification

Solving Techniques (172 hints)

Dynamic Forcing Chains > Dynamic Forcing Chain

Contradiction Forcing Chain: D2 on ==> B1

Cell Forcing Chains: D2 ==> D3.6 off

Contradiction Forcing Chain: F4.5 on ==> B1

Cell Forcing Chains: D2 ==> D2.2 off

Contradiction Forcing Chain: B9.5 on ==> E6

Cell Forcing Chains: A3.8 on ==> E6

Contradiction Forcing Chain: D5.7 on ==> G1

Contradiction Forcing Chain: D9.4 on ==> E6

Contradiction Forcing Chain: H4.7 on ==> F5

Region Forcing Chains: 8 in column ==> A9.9

Region Forcing Chains: 7 in row ==> B4.7

Contradiction Forcing Chain: C5.5 on ==> H4

Region Forcing Chains: 5 in row ==> A7.5 off

Contradiction Forcing Chain: F4.5 on ==> G5

Contradiction Forcing Chain: F5.7 on ==> F7

Contradiction Forcing Chain: C7.1 on ==> E6

Cell Forcing Chains: D2 ==> B4.6 off

Contradiction Forcing Chain: F5.1 on ==> B8

Contradiction Forcing Chain: F5.8 on ==> F7

Region Forcing Chains: 8 in row ==> B2.9 off

Contradiction Forcing Chain: B9.7 on ==> G5

Contradiction Forcing Chain: A6.5 on ==> C5

Cell Forcing Chains: F7 ==> F8.1 off

Region Forcing Chains: 3 in column ==> G3.2

Region Forcing Chains: 4 in column ==> H3.5

Cell Forcing Chains: G2 ==> A8.6 on

Region Forcing Chains: 5 in column ==> B2.8

Region Forcing Chains: 7 in row ==> D4.6 off

Cell Forcing Chains: B8 ==> H5.6 off

Cell Forcing Chains: C8 ==> D3.6 off

Region Forcing Chains: 4 in column ==> H9.9

Region Forcing Chains: 6 in row ==> C2.3 off

Region Forcing Chains: 7 in row ==> D6.6 off

Region Forcing Chains: 4 in column ==> D8.9

Region Forcing Chains: 4 in column ==> D4.9

Region Forcing Chains: 5 in block ==> H6.2 off

Region Forcing Chains: 3 in block ==> B2.2 off

Region Forcing Chains: 3 in block ==> A3.7 off

Cell Forcing Chains: F7 ==> E3.1 off

Region Forcing Chains: 4 in block ==> F8.8 off

Cell Forcing Chains: F2 ==> F1.6 on

Region Forcing Chains: 3 in row ==> A7.2 off

Region Forcing Chains: 3 in row ==> I5.1 on

Region Forcing Chains: 4 in row ==> B6.6 on

Region Forcing Chains: 3 in row ==> B8.4 on

Region Forcing Chains: 9 in column ==> C4.2

Region Forcing Chains: 3 in row ==> H5.4 on

Region Forcing Chains: 3 in row ==> G8.3 off

Filter hints with similar outcome

Hint rating: 11.7

You can pick a more difficult one as well

Sudoku Grid

Hints classification

Solving Techniques (172 hints)

Dynamic Forcing Chains > Dynamic Forcing Chain

Cell Forcing Chains: B7 ==> B6.1 off

Region Forcing Chains: 3 in column ==> G3.2

Region Forcing Chains: 4 in column ==> H3.5

Cell Forcing Chains: G2 ==> A8.6 on

Region Forcing Chains: 5 in column ==> B2.8

Region Forcing Chains: 7 in row ==> D4.6 off

Cell Forcing Chains: B8 ==> H5.6 off

Cell Forcing Chains: C8 ==> D3.6 off

Region Forcing Chains: 4 in column ==> H9.9

Region Forcing Chains: 6 in row ==> C2.3 off

Region Forcing Chains: 7 in row ==> D6.6 off

Region Forcing Chains: 4 in column ==> D8.9

Region Forcing Chains: 4 in column ==> D4.9

Region Forcing Chains: 5 in block ==> H6.2 off

Region Forcing Chains: 3 in block ==> B2.2 off

Region Forcing Chains: 3 in block ==> A3.7 off

Cell Forcing Chains: F7 ==> E3.1 off

Region Forcing Chains: 4 in block ==> F8.8 off

Cell Forcing Chains: F2 ==> F1.6 on

Region Forcing Chains: 3 in row ==> A7.2 off

Region Forcing Chains: 3 in row ==> I5.1 on

Region Forcing Chains: 4 in row ==> B6.6 on

Region Forcing Chains: 3 in row ==> B8.4 on

Region Forcing Chains: 9 in column ==> C4.2

Region Forcing Chains: 3 in row ==> H5.4 on

Region Forcing Chains: 3 in row ==> G8.3 off

Filter hints with similar outcome

Hint rating: 12.6

Re: The hardest sudokus (new thread)

Dby champagne » Mon Sep 30, 2019 1:41 pm

Having received a heavy contribution from paquita, I prepared a new update of the data base

as for all new files , that update is in my "google drive space" with the name ph_1910.zip

the link to that storage place is [here](#)

The file contains now 3 049 068 puzzles (2 135 371 in the former release dated May 2019)

On interesting fact is that paquita produced many high ratings in the area >24 clues.

The readme file included in the zip file have more details.

Re: The hardest sudokus (new thread)

Dby denis_berthier » Fri Oct 04, 2019 8:14 am

champagne wrote:
Having received a heavy contribution from paquita, I prepared a new update of the data base
The readme file included in the zip file have more details.

When I'm aware of an update of the hardest, I test the BpB classification of the highest rated puzzles.

The 1910 Readme file says:

CODE: SELECT ALL
The count per er is the following
er count
11.9 9
11.8 59
11.7 124

The 1905 Readme file said:

CODE: SELECT ALL
The count per er is the following
er count
11.9 9
11.8 54
11.7 119 +3

I conclude that the difference is:

CODE: SELECT ALL
er count
11.9 0
11.8 +5
11.7 +5

However, I could find only 1 new 11.8 and 4 new 11.7, namely:

CODE: SELECT ALL
98.7.....76.....8.....5.....8..9..4.....3.....2.....1.....5.....46.7.....9..6..2.....2..34;11.88;11.88;2..60;PAQ;2019..05..01;2346393;23;
98.7.....9.5.....4.....3.....7..9..6.....7.....42.....1.....6..5.....8.....2.....3.....1.....7;11.78;11.78;3..40;PAQ;2019..08..05..6;2487227;22;
.....5..69.....67.8.....8.....5.....4.....3.....85.....9.....2.....3.....79.....6.....2.....4.....4.....3.....2;11.78;11.78;1..20;1..20;6P;13..11..80;1599507;22;
98.76.5..4..53..6.....2.....9.....5..6.....3.....4.....1.....3.....7.....58.....5.....63.....7.....;11.78;1..20;1..20;PAQ;2019..08..05..4;2489141;24;
98.76.....7.....59.....45;3..6..4.....6.....6..59..4.....93.....4.....4.....35.....9.....2.....1.....;11.78;1..20;1..20;PAQ;2019..08..05..4;2488918;25;

Am I missing anything?

Re: The hardest sudokus (new thread)

Dby champagne » Fri Oct 04, 2019 9:42 am

denis_berthier wrote:

champagne wrote:
The 1910 Readme file says:

CODE: SELECT ALL
The count per er is the following
er count
11.8 59
11.7 124

The 1905 Readme file said:

CODE: SELECT ALL
The count per er is the following
er count
11.9 9
11.8 54
11.7 119

I conclude that the difference is:

CODE: SELECT ALL
er count
11.8 +5
11.7 +5

However, I could find only 1 new 11.8 and 4 new 11.7.
Am I missing anything?

Digging in the past is time consuming and not always possible. I'll try to do it later.
Just a quick answer for the 11.7 not from Paquita.

This is an adjustment of the data base reintroducing an old puzzle killed by error.

Re: The hardest sudokus (new thread)

Dby International_DBA » Sun Oct 06, 2019 7:16 pm

What is the copyright, if any, on these puzzles?

Do you mind if I post a few on my blog?

I would say where I got them from with a link back to your group from my blog and also my Facebook group, which has almost 7000 members.

Re: The hardest sudokus (new thread)

Dby champagne » Sun Oct 06, 2019 9:11 pm

This data base is shared to give samples of "potential hardest puzzles".

I do my best to give the reference to the first known puzzle of a given puzzle.

Using a puzzle of the collection is totally free. No morth asked for any form of copyright.

As usual, it is fair to indicate the source of a puzzle with special properties if it is taken out of an external collection.

Re: The hardest sudokus (new thread)

Dby sxxxxxx » Wed Oct 23, 2019 11:17 am

Is this 11.7 not a new puzzle? What is the isomorphism puzzle in ph_1910.zip

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