The hardest sudokus (new thread)

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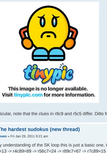
Re: The hardest sudokus (new thread)

by **coin** » Thu Jan 27, 2011 6:12 pm

At the start, **Cigarette** has a variant of the sk-loop that I don't recall seeing before.



In particular, note that the clues in r8c8 and r5c5 differ. Ditto for the clues in r9c8 and r6c8.

Re: The hardest sudokus (new thread)

by **eleven** » Fri Jan 28, 2011 9:21 am

For my understanding of the SK loop this is just a basic one, the pairs loop:
r5c5=r5c8-r8c8-r8c2=r2c2 - r5c5=r5c2 -> r5c5<>r2c2 -> r5c5=r2c2 -> r5c5<>r1c2 -> r5c5=r1c2 -> r4c5<>13
is all you need for the eliminations.

Different to your last one, which needed more than a pure pairs loop.

For the record:
In the other thread Carlitoh has posted extremely high suexrat ratings for many puzzles. A part of these puzzles (including the hardest) had already been published by me in this or that thread without suexrat ratings, so I claim them for me. To honour Colins findings I want to give the hardest his name:

CODE: SELECT ALL

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 . . . | . . . | . . .
 . . . | . . . | . . .
 . . . | . . . | . . .
 -------+-------+-------
 . . . | . . . | . . .
 . . . | . . . | . . .
 . . . | . . . | . . .
 -------+-------+-------
 . . . | . . . | . . .
 . . . | . . . | . . .
 . . . | . . . | . . .
```

Colin

It seems to be very asymmetric with its 6 minimal/clusters with 2 clues, maybe a reason, why it has not been found before.
btw what are the options for gsf's program for finding a "best" symmetry ?

So these are the puzzles with suexrat9 > 8800 and/or suexrat8 > 4000 (both limits higher than the current top puzzles) with ED.q1,q2:

eleven

CODE: SELECT ALL

```
10376  5710  .3.  . . 4. 36. 8 . . 4. 6. 79. . . . . 2. 5. 4 7. 486. . . . 7. 8. 5.  11.0 11.0 2.0  95070 38434 Colin4
9000   4500  .3.  . . 4. 36. 8 . . 4. 6. 79. . . . . 2. 5. 4 7. 486. . . . 7. 8. 5.  10.0 10.0 2.0  95070 38434
3100   5000  .3.  . . 4. 36. 8 . . 4. 6. 79. . . . . 2. 5. 4 7. 486. . . . 7. 8. 5.  10.0 10.0 2.0  95103 39937
8017   5333  .4.  . . 5. 8.2 4. . . 1. 3. 4 . . . . . 5.3.8.35. 6.3.6. . 95. 8. . .  10.4 10.4 2.0  95273 87100
8000   4500  .3.  . . 4. 36. 8 . . 4. 6. 79. . . . . 2. 5. 4 7. 486. . . . 7. 8. 5.  10.0 10.0 2.0  95178 36707
8000   4000  .2.  . . 7. 4. 1 . 6.9. 2.3 4. . . . . 9 . . . 4. 6. 96. 5. 6. 7. 5.  10.0 10.0 2.0  95178 36707
8507   4364  .1.  . . 4. 36. 8 . . 4. 6. 79. . . . . 2. 5. 4 7. 486. . . . 7. 8. 5.  10.0 11.0 2.0  96019 98363
8000   4500  .3.  . . 4. 36. 8 . . 4. 6. 79. . . . . 2. 5. 4 7. 486. . . . 7. 8. 5.  10.0 10.0 2.0  95178 36707
8000   4487  .2.  . . 7. 4. 1 . 6.9. 2.3 4. . . . . 9 . . . 4. 6. 96. 5. 6. 7. 5.  10.0 10.0 2.0  96129 98211
8004   4534  .1.  . . 4. 36. 8 . . 4. 6. 79. . . . . 2. 5. 4 7. 486. . . . 7. 8. 5.  10.0 11.0 2.0  95326 98797
7000   4500  .3.  . . 4. 36. 8 . . 4. 6. 79. . . . . 2. 5. 4 7. 486. . . . 7. 8. 5.  10.0 10.0 2.0  95178 36707
7.960  4500  .3.  . . 4. 36. 8 . . 4. 6. 79. . . . . 2. 5. 4 7. 486. . . . 7. 8. 5.  10.0 10.0 2.0  95273 74894
7000   4500  .3.  . . 4. 36. 8 . . 4. 6. 79. . . . . 2. 5. 4 7. 486. . . . 7. 8. 5.  10.0 10.0 2.0  95178 36707
7230   5000  5.  . . 7. 1. 2 . 6. . . . . 9 . . . . . 4. 6. 96. 5. 6. 7. 5.  10.0 10.0 2.0  96018 22075
7000   4500  5.  . . 7. 1. 2 . 6. . . . . 9 . . . . . 4. 6. 96. 5. 6. 7. 5.  10.0 10.0 2.0  96018 22075
7000   4500  5.  . . 7. 1. 2 . 6. . . . . 9 . . . . . 4. 6. 96. 5. 6. 7. 5.  10.0 10.0 2.0  95326 98797
6003   4870  .4.  . . 5. 8.2 4. . . 7. 3. 4 . . . . . 5.3.8.35. 6.3.6. 8.95. 8. . .  10.4 10.4 2.0  95121 58050
7000   4500  .3.  . . 4. 36. 8 . . 4. 6. 79. . . . . 2. 5. 4 7. 486. . . . 7. 8. 5.  10.0 10.0 2.0  95178 36707
7000   4500  .3.  . . 4. 36. 8 . . 4. 6. 79. . . . . 2. 5. 4 7. 486. . . . 7. 8. 5.  10.0 10.0 2.0  95017 73905
8753   4618  .2.8. . 7. 1. 2 . 3.8.27.1.2 1. 9. 5 . . 4. 9. . . 4. 5. . 4. 5. . .  10.9 11.2 1.2  46997 97421
8000   4500  .3.  . . 4. 36. 8 . . 4. 6. 79. . . . . 2. 5. 4 7. 486. . . . 7. 8. 5.  10.0 10.0 2.0  95178 36707
8000   4500  .3.  . . 4. 36. 8 . . 4. 6. 79. . . . . 2. 5. 4 7. 486. . . . 7. 8. 5.  10.0 10.0 2.0  95178 36707
8678   4348  .2.47 . . . 2.78.2. . 3. 4. 1. 4.76.7.3.452.7.8. . . . . 1. . 8  10.0 10.0 8.5  78948 51884
8000   4500  .3.  . . 4. 36. 8 . . 4. 6. 79. . . . . 2. 5. 4 7. 486. . . . 7. 8. 5.  10.0 10.0 2.0  95178 36707
9000   4567  .2.36. . 5. 2.8 . . 7. 4. 1 . 6.9. 2.3 4. . . . . 9 . . . 4. 6. 96.  10.0 10.0 2.0  96047 97008
9003   4877  .1. 8 . 8 6.2 .51. 5.9.6. . 4. 4. 3.8. 4. 5.3.2.1. . . . . 4.5.92  10.2 10.2 2.0  38405 1738
8000   4500  .3.  . . 4. 36. 8 . . 4. 6. 79. . . . . 2. 5. 4 7. 486. . . . 7. 8. 5.  10.0 10.0 2.0  95178 36707
8000   4500  .3.  . . 4. 36. 8 . . 4. 6. 79. . . . . 2. 5. 4 7. 486. . . . 7. 8. 5.  10.0 10.0 2.0  95206 86849
8000   4500  .3.  . . 4. 36. 8 . . 4. 6. 79. . . . . 2. 5. 4 7. 486. . . . 7. 8. 5.  10.0 10.0 2.0  95178 36707
6000   4384  .2.4. . 7. 2.9 3. . . . . 9.8. 7. 4.5.92.46.2.8.51. 3. . . 8  10.0 10.4 8.5  95306 57545
8000   4500  .3.  . . 4. 36. 8 . . 4. 6. 79. . . . . 2. 5. 4 7. 486. . . . 7. 8. 5.  10.0 10.0 2.0  95178 36707
8000   4500  .3.  . . 4. 36. 8 . . 4. 6. 79. . . . . 2. 5. 4 7. 486. . . . 7. 8. 5.  10.0 10.0 2.0  77512 42896
5873   4380  .2.4. 8 . 7. . 6. .3.5. . 15.1.64. .28. . 1.9.38. . 3. 38. 3. 1. .  10.3 11.3 1.2  95257 41099
8000   4500  .3.  . . 4. 36. 8 . . 4. 6. 79. . . . . 2. 5. 4 7. 486. . . . 7. 8. 5.  10.0 10.0 2.0  95178 36707
8000   4500  .3.  . . 4. 36. 8 . . 4. 6. 79. . . . . 2. 5. 4 7. 486. . . . 7. 8. 5.  10.0 10.0 2.0  51988 85254
5708   4895  . . 8. 67. . . 8. 36.5.4. 3. 5. . . 4. 66. . 83.4. 1.9. 2. 3. .25.9. . . .  10.2 1.2 1.2  84720 23851
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Colin

CODE: SELECT ALL

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 9400   4900  5.9. . 4. 8. 36. 8 . . 4. 6. 79. . . . . 2. . 4 7. 486. . . . 7. . 5.4  10.4 10.4 2.0  95290 58600
 8000   4500  .3.  . . 4. 36. 8 . . 4. 6. 79. . . . . 2. . 4 7. 486. . . . 7. . 5.  10.4 10.4 2.0  95274 88529
 8000   4500  .3.  . . 4. 36. 8 . . 4. 6. 79. . . . . 2. . 4 7. 486. . . . 7. . 5.  10.4 10.4 2.0  95178 36707
 8000   4500  .3.  . . 4. 36. 8 . . 4. 6. 79. . . . . 2. . 4 7. 486. . . . 7. . 5.  10.4 10.4 2.0  38405 85808
 8000   4500  .3.  . . 4. 36. 8 . . 4. 6. 79. . . . . 2. . 4 7. 486. . . . 7. . 5.  10.4 10.4 2.0  95178 36707
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