The hardest sudokus (new thread)

Post reply

Re: The hardest sudokus (new thread)

Posted: 14 Jun 2006 08:14:00

Ed wrote:

> **champagne** wrote:
> Ed is a problem with the data base of puzzles for the pattern, so I blanky map nonsingles:
>
> Here for the puzzles starts in row 1 to row 10 of the data base of pointer bashed:
>
> Output: Row Nine
>
> 0
>
> It looks as much as possible the base of puzzles for the pattern is given starters.

First off, great thanks for looking into the problem. It seems that the pattern does have a reasonably good potential for hard puzzles, which is encouraging to me. Given that there are a good number of other patterns with these properties, I think that this could be a tremendous number of new potential starters.

Re: The hardest sudokus (new thread)

Posted: 14 Jun 2006 08:17:00

champagne wrote:

> **ronald** wrote:
> First off, great thanks for looking into the pattern

As I could restore the data base - I am still working on process of the full code with a multiple target and sorting offers:

a) having a better idea of the pattern needed to make a full case
b) having a better idea of the use of ratings since 0.1
c) having a better idea of the pattern itself

I am already confirm that the full case process is not feasible in general, but everybody knows that:

Ed wrote:

> Since the first set is a good number of other patterns with these properties, it seems likely that they contain a substantial number of new potential hunters

I am convinced that we are missing many puzzles in the already searched 21-23 clues area, but analyzing a pattern from scratch is a very long task. Here several days/years of work.

I have no hopping on looking for puzzles around the 24 clues area, but only for the 25 clues area. Anyway, for the first 25 clues can be distributed to the owners of new results.

In this specific case, I'll try a sorting search using the 10 starters and pass pattern for puzzles passing the rating 10+0.01

On the other way, I am considering many more puzzles passing 10+0.01 the 23 clues area.

Re: The hardest sudokus (new thread)

Posted: 14 Jun 2006 08:19:00

champagne wrote:

> **ronald** wrote:
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I have no hopping on looking for puzzles around the 24 clues area, but only for the 25 clues area. Anyway, for the first 25 clues can be distributed to the owners of new results.

In this specific case, I'll try a sorting search using the 10 starters and pass pattern for puzzles passing the rating 10+0.01

On the other way, I am considering many more puzzles passing 10+0.01 the 23 clues area.

I understand analysis of a pattern is very difficult, so scanning all of them will take far impossible. However, by generating a small sample for one of them, it might be possible to focus the search in patterns with particularly high potential for hard puzzles. I know this might not be something you want to invest your time into, but it's something that I would like to invest my time into since I get the important tools and programming skills for preforming this kind of search. There are many of us who would be very grateful if you gave the tools for scrutinizing and sorting interesting patterns.

Re: The hardest sudokus (new thread)

Posted: 14 Jun 2006 08:21:00

champagne wrote:

> **ronald** wrote:
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Hi,

Working on patterns with a sustained high potential has been the start for the search of "hardest puzzles".

The true problem is that we have no clear idea of what is a pattern with high potential.

I have only one small success in an unknown activity analysis:

- the pattern with the highest number of hard puzzles
- starting from simple known puzzles for the pattern
- using the simple known puzzles as starters

After 5 or 6 years, we have a collection of more than ever million puzzles with very high SE ratings.

Trying to derive from puzzles, it appeared that several special properties can be identified? The most common is the 26 clues.

I selected that puzzles to go in the direction only sudokus.

My first step has been to run some pattern where the 26 clues has been found and to generate puzzles with a similar property. It's not so easy and the code I have done not accept all cases.

Where (and if this is really positive), I intend to generate new patterns "of interest" but I am already 70 years old and every day I'll be forced to stop.

If anyone strong enough, can try to continue, it would be a better scale.

Re: The hardest sudokus (new thread)

Posted: 14 Jun 2006 08:23:00

champagne wrote:

> Hi,
>
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>
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>
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>
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>
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>
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>
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Joined: 14 Jun 2006
Posts: 1
Location: Kansas City, Missouri, USA

Re: The hardest sudokus (new thread)

Posted: 14 Jun 2006 08:25:00

Hi,

The last update of the file of potential hunters is now relatively old.

I should make an update of the data base. It probably has some surprises to hide. I can collect them.

I have nearly finished the work I wanted to do to priority in the closing of Sudoku Explorer, so I'll restart the work on "needs pattern" soon

Re: The hardest sudokus (new thread)

Posted: 14 Jun 2006 08:27:00

Joined: 14 Jun 2006
Posts: 1
Location: Kansas City, Missouri, USA

I just made an update of the data base as of September 9th 2004.

as for all new files, that update is in my "google-drive-space" with this name pub_sudoku.zip

the link to the whole group is here:

http://

The file contains now 1,529,999 puzzles (1,999,999 puzzles in all)
Only the puzzles have been added since the last update on the 9th of the month before.

I did not work since December on the rules properties. I'll produce an update of the corresponding files in the next days.

The clue count in the data base was not correct for several puzzles, especially in the SE_Clues field.
This error has been adjusted. The statistics are now in line with the separate lists.

the count per clue in the data base is the following:

```
clues count rec
---|-----|---
  0|    1|
  1|    1|
  2|    1|
  3|    1|
  4|    1|
  5|    1|
  6|    1|
  7|    1|
  8|    1|
  9|    1|
 10|    1|
 11|    1|
 12|    1|
 13|    1|
 14|    1|
 15|    1|
 16|    1|
 17|    1|
 18|    1|
 19|    1|
 20|    1|
 21|    1|
 22|    1|
 23|    1|
 24|    1|
 25|    1|
 26|    1|
 27|    1|
 28|    1|
 29|    1|
 30|    1|
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 62|    1|
 63|    1|
 64|    1|
 65|    1|
 66|    1|
 67|    1|
 68|    1|
 69|    1|
 70|    1|
 71|    1|
 72|    1|
 73|    1|
 74|    1|
 75|    1|
 76|    1|
 77|    1|
 78|    1|
 79|    1|
 80|    1|
 81|    1|
```

the distribution of highest ratings per clue is:

```
clues count rec
---|-----|---
  0|    1|
  1|    1|
  2|    1|
  3|    1|
  4|    1|
  5|    1|
  6|    1|
  7|    1|
  8|    1|
  9|    1|
 10|    1|
 11|    1|
 12|    1|
 13|    1|
 14|    1|
 15|    1|
 16|    1|
 17|    1|
 18|    1|
 19|    1|
 20|    1|
 21|    1|
 22|    1|
 23|    1|
 24|    1|
 25|    1|
 26|    1|
 27|    1|
 28|    1|
 29|    1|
 30|    1|
 31|    1|
 32|    1|
 33|    1|
 34|    1|
 35|    1|
 36|    1|
 37|    1|
 38|    1|
 39|    1|
 40|    1|
 41|    1|
 42|    1|
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 65|    1|
 66|    1|
 67|    1|
 68|    1|
 69|    1|
 70|    1|
 71|    1|
 72|    1|
 73|    1|
 74|    1|
 75|    1|
 76|    1|
 77|    1|
 78|    1|
 79|    1|
 80|    1|
 81|    1|
```

Re: The hardest sudokus (new thread)

Posted: 14 Jun 2006 08:29:00

champagne wrote:

> They should all contain a multiple pattern because of the patterns: const
>
> **champagne** wrote:
> Hi, champagne.
>
> **Ed** wrote:
> Not all those are SE rating of 10 and above, but will take them up to 9.5 lower. A hard file top puzzles should qualify for your database.

Joined: 14 Jun 2006
Posts: 1
Location: Kansas City, Missouri, USA

Hi champagne,

I compared the collection of puzzles that respond to level 9.5 by check with my same against your latest database and found a couple that are not included.
They all have an SE rating of 10 and above, but with clues from up to 9 clues. A hard file top puzzles should qualify for your database.

```
clues count rec
---|-----|---
  0|    1|
  1|    1|
  2|    1|
  3|    1|
  4|    1|
  5|    1|
  6|    1|
  7|    1|
  8|    1|
  9|    1|
 10|    1|
 11|    1|
 12|    1|
 13|    1|
 14|    1|
 15|    1|
 16|    1|
 17|    1|
 18|    1|
 19|    1|
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 22|    1|
 23|    1|
 24|    1|
 25|    1|
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 30|    1|
 31|    1|
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 34|    1|
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 67|    1|
 68|    1|
 69|    1|
 70|    1|
 71|    1|
 72|    1|
 73|    1|
 74|    1|
 75|    1|
 76|    1|
 77|    1|
 78|    1|
 79|    1|
 80|    1|
 81|    1|
```

Hi Ed,

It is due to the fact that with clues usually below 30 I have changed the cut off.

In high specific cases, the minimum in the data base would have been one or two the same, using the old SE criteria in the 9th criteria.

The eligible puzzles will be in the next update of the data base.

all sudoku clues count for the SE contribution above in the very high ratings. I use the same cut_off as the old with an exception.

Re: The hardest sudokus (new thread)

Posted: 14 Jun 2006 08:31:00

ronald wrote:

> the entire Hardest sudoku Database can be downloaded by following the link: http://sudokuexplorer.info/hs/
>
> The following is a "Top 5" list of hardest sudokus according to some popular sudoku rating programs (the most post-fix clues only):
>
> **SE Top 5**
>
> ```
> Source Total Rating Sudoku
> ------ ----- ------ ------
> Ed     10.0  10.0   .....1..4.....2...8.....9...6.....7...3.....6...5.....4...7.....
> Ed     10.0  10.0   .....1..4.....2...8.....9...6.....7...3.....6...5.....4...7.....
> Ed     10.0  10.0   ..3.7....9..1.....8.2.....6.....4.....5.9.....3.....7.....8...
> Ed     10.0  10.0   ..3.7....9..1.....8.2.....6.....4.....5.9.....3.....7.....8...
> Ed     10.0  10.0   ..3.7....9..1.....8.2.....6.....4.....5.9.....3.....7.....8...
> ```
>
> ronald wrote:
> Hi Ed! Just now, I detected the "Golden Nugget" Sudoku by Ed. I didn't find it official. Jeremy's yesterday afternoon and had it solved in only about three hours. I've tried to run Image Rater that ran it in SE 9.5 puzzle. But it wasn't able to do it. I'm sure it would be a very interesting puzzle to see what it would do with the new SE rating system. Would you be willing to run it through your system?
>
> The solution method was very tedious. I started by looking for the Hard Pair that have the unlikely combination of alternative possibilities for the unknowns. Jeremy had an idea. Mine is Column 4 in Column 5. I've found a few pairs that possibilities from (both) rows in both (columns) and (box) to subset on Column 5 for the Hard Pair with Column 5 as backup.
>
> There are 20 possibilities left in Column 5. I'm hoping that one of those 20 will lead to a Hidden Pair. Jeremy's idea was that the eventually unlikely possibility for Column 5, with 1,6,8,9 leading from top to bottom