

The hardest sudokus (new thread)

POSTREPLY

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Dby tarek • Tue Jan 13, 2009 5:40 pm

QUOTE

44 britrunner wrote:
As a followup question, what do you do about variations with better scores?

This is very unfortunate. The 10000 2 option seems to serve in these puzzles to reproduce similar results between machines. I would have expected this to mean that this to be same over permutations of the same puzzle ... Maybe this means that the pemutations in suexratt are not that random ?????!!!!

In this case, I would say that the lowest rating should be taken into account ... The suexratt rating of 2768 might mean that a downgrading is needed

Because it would be tedious to do all of this by one person I will run the program on the original puzzle but will accept & change the ratings if another user demonstrates that a permutation has indeed a lower rating.

I will also show the top 5 from each category for that same reason.

tarek



tarek

Posts: 3759
Joined: 05 January 2006

Dby tarek • Tue Jan 13, 2009 6:07 pm

QUOTE

Because of the lower Suexratt score of coly013 I ran several permutations of its closest conterder, tarx0134 under suexratt

CODE: SELECT ALL

suexratt test.txt 10000 2
rating: 4566 , 3222 ,8...3...4...9...2...6....79.....612...6.5.2.7...8...5...1....2.4.5.....3
rating: 4075 , 3333 ,5...8...1...9...7...1...4....8.2...6.7...9...2...2...6.8....9....325
rating: 4445 , 3831 ,1....234....456...7....3....2...68.1.9....98....4...6...51...7...4...
rating: 4509 , 3929 ,1...7.0...1.0.2...4...3....9...8...6...35...9...4...2...51...9...6....987....
rating: 4376 , 2954 , 123.....6.....59...1.....4...8.5...1.9...3...6.7...7.....6.8...49...3.2..
totalNodes:226445003

tarek



tarek

Posts: 3759
Joined: 05 January 2006

Dby britrunner • Wed Jan 14, 2009 1:10 am

QUOTE

Greetings.

I realize I am new here, and not in your guy's league (my highest puzzles I am currently generating have Q2 ratings of only 97500 to 97700), but I have a suggestion:

For ratings, using the min-lex version of the puzzle to base the rating on.

reasoning:
you have basically 4 options for handling variations:
- Take the highest
- Take the lowest
- Take the first submitted
- Take the rating of a normalized version

Taking the highest encourages people to run various permutations, trying to get higher scores. This means lots of computing power used to improve the score without really generating anything new. My opinion is that this is probably the second best option, since if you do the effort, you get a positive result, but it is a bit wasteful.

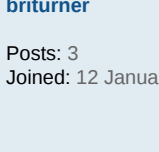
Take the lowest discourages running permutations other than someone doing it to knock someone else down. This just feels wrong to me since the only motivation is negative, but it also means that anyone score can be degraded at any time.

Take the first submitted will cause people to hold out on submitting puzzles as they run permutations to try to get a higher score. Again wasting time without generating anything new, but now doing it in secret since they cannot release the puzzle while they are doing this.

Take the rating of the normalized puzzle appears to me to be the least wasteful and best option. Since ratings are somewhat subjective anyways, this at least provides a single puzzle a single score without wasting time running permutations.

The absolute worst idea would be to allow permutations to be submitted as a separate puzzle, which would encourage outright theft. No one is suggesting this, but I mention it to be complete with the options.

tarek



britrunner

Posts: 3
Joined: 12 January 2009

I did a quick test with the Q1 and Q2 rating, and found the it's variations much more acceptable (0.005% compared to 15% with suexratt).

also, is there a program or command line that can take a puzzle and generate the min-lex version?

thanks
brit


Dby ronk • Wed Jan 14, 2009 1:44 am

QUOTE

44 britrunner wrote:
For ratings, using the min-lex version of the puzzle to base the rating on.

Sounds very reasonable to me.

tarek



ronk

2012 Supporter
Posts: 4764
Joined: 02 November 2006
Location: Southeastern USA

I use gsf's program, with the command line ...

sudoku -qFN -P%fc.c test.dat

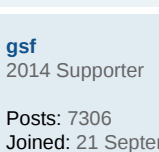
... combined with fgrep to find puzzles that don't already exist in a library.

Dby gsf • Wed Jan 14, 2009 2:45 am

QUOTE

one clarification on canonicalization in my solver
there are two minlex forms
-%fc : minlex based on the solution grid
-%fmc : minlex based on the puzzle (subgrid) -- also allows partial puzzles
in general the minlex based on the solution grid algorithm is faster than the subgrid algorithm as the number of clues increases
the knee is somewhere near 20 clues if memory serves correct

tarek



gsf

2014 Supporter
Posts: 7300
Joined: 21 September 2006
Location: NJ USA

Dby tarek • Wed Jan 14, 2009 4:10 am

QUOTE

44 ronk wrote:
44 britrunner wrote:
For ratings, using the min-lex version of the puzzle to base the rating on.
Sounds very reasonable to me.

Fair enough. Unfortunately all my database & ratings are based on the original puzzle configuration & therefore some work needs to be done. Will recompute for top 10 to bring out the top 5. This exercise is to calculate the top puzzle(s) so it shouldn't really have a major impact on the rest of the puzzles already rated & in the database.

tarek



tarek

Posts: 3759
Joined: 05 January 2006

Dby tarek • Wed Jan 14, 2009 8:19 am

QUOTE

Was compiling the database. The first victim was

CODE: SELECT ALL
..6.....1.7.4..2.....5.3...8...7.....4.8.9.28.....1...5...2.9...7.3.....6 coly005

which is isomorphic to

CODE: SELECT ALL
.....5..4.....2...6.7.3.....7..8....86....13..8.....3.1.6...2.....54.....9 tarx0068

The database will be constructed to show non isomorphic puzzles, therefore only the 2nd puzzle will be in the database. The lack of an up to date database was IMO the reason behind some isomorphic puzzles appearing.

I'll post some notes with the database.

tarek



tarek

Posts: 3759
Joined: 05 January 2006

HardestDatabase090115

Dby tarek • Wed Jan 14, 2009 6:49 pm

QUOTE

This is my current database (HardestDatabase090115), sorted according to q2 rating

Use deleted to avoid order confusion with recent updates from old

1st line is the fields names
The database is missing the ER,EP,ED of many puzzles, therefore I will not show a top 5 for ER at this moment in time.

The Date field as well has not been filled.

Not all SxS or SxT ratings are based on the row normal minlex isomorph, only the ones in the top 10.

tarek

[EDIT: Database re-posted with cosmetic modifications]
[EDIT: List deleted to avoid order confusion with recent updated form of list]

Last edited by tarek on Thu Dec 30, 2010 11:42 am, edited 3 times in total.

tarek



tarek

Posts: 3759
Joined: 05 January 2006


Re: HardestDatabase090115

Dby gsf • Wed Jan 14, 2009 7:13 pm

QUOTE

44 tarek wrote:
This is my current database (HardestDatabase090115), sorted according to q2 rating

tarek



gsf

2014 Supporter
Posts: 7306
Joined: 21 September 2006
Location: NJ USA

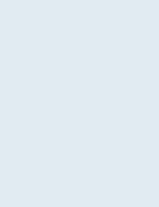
thanks
if you make this the first line in the db

CODE: SELECT ALL
#|sudoku -c2,10,PuzzleR,PuzzleC,Label,Poster,Date,Q1,Q2,ER,EP,ED,SK9,SxT

then my solver will be able to access the fields by name
other solvers could at least use the

CODE: SELECT ALL
-c2,

to determine that the puzzle is in the 2nd comma-separated field



tarek

Posts: 3759
Joined: 05 January 2006

Re: HardestDatabase090115

Dby champagne • Wed Jan 14, 2009 7:38 pm

QUOTE

44 tarek wrote:
This is my current database (HardestDatabase090115), sorted according to q2 rating

tarek



champagne

2017 Supporter
Posts: 7209
Joined: 02 August 2007
Location: France Brittany

Hi tarek,
Could it be possible to get it with puzzles starting in position 1 ??

I would see what is my up to date ranking for these puzzles.

champagne

Dby tarek • Wed Jan 14, 2009 8:07 pm

QUOTE

The database has been re-posted with the puzzle in the first column & gsf sudoku friendly 1st line👉

tarek



tarek

Posts: 3759
Joined: 05 January 2006

Dby champagne • Wed Jan 14, 2009 8:31 pm

QUOTE

44 tarek wrote:
The database has been re-posted with the puzzle in the first column & gsf sudoku friendly 1st line👉

tarek

tarek



champagne

2017 Supporter
Posts: 7209
Joined: 02 August 2007
Location: France Brittany

Thanks for the future.

I reshaped that one handy and I am running it.

I have to dig in the first entry. Seen by my solver, it has nothing that makes it eligible as an "hardest puzzle". Not even one of the specificities given by tt👉No symmetry, no need to look for SK loop.

Either there is a bug in my solver, or it is over valued in the ranking.

By chance the list is long enough to include my hardest known, Silver Plate, but that one and Golden Nugget would have disappeared with a cut off slightly lower👉👉

champagne

EDIT: I think I already checked that one when coloin submitted it just because he expressed a disenchantment when I got that result.

Dby ronk • Wed Jan 14, 2009 10:04 pm

QUOTE

44 tarek wrote:
The database has been re-posted with the puzzle in the first column & gsf sudoku friendly 1st line👉

tarek



ronk

2012 Supporter
Posts: 4764
Joined: 02 November 2006
Location: Southeastern USA

While you're still in the mood to honor requests👉...

To make more relevant fields stay on-screen for human readers, would you please make [edit: PuzzleC] the last field👉

BTW IIRC, if you replaced hyphens with underscores, your Peary6000 entries wouldn't line wrap.

BTW2 I applaud your use of "," instead of "0," for empty fields.

Dby tarek • Thu Jan 15, 2009 1:48 am

QUOTE

44 ronk wrote:
To make more relevant fields stay on-screen for human readers, would you please make [edit: PuzzleC] the last field👉

BTW IIRC, if you replaced hyphens with underscores, your Peary6000 entries wouldn't line wrap.

I sense that there is a display problem which isn't present in IE7... because I used the [size] tags I managed to shrink the text to establish 1 record per line (that is true even with 1024*768 display)

tarek



tarek

Posts: 3759
Joined: 05 January 2006

44 ronk wrote:
BTW2 I applaud your use of "," instead of "0," for empty fields.

is that sarcasm👉, I'll continue with it regardless👉

tarek

Dby champagne • Thu Jan 15, 2009 1:59 am

QUOTE

Hi all,

here some statistics coming out of the run of the database just published by tarek.
I run the file under several options
First one (column Z)is a kind of standard processing including the search of the SK loop.
Is given the processing time in seconds.

Column 3 is the lowest number I got for puzzles giving the higher time in column 2 under the following options :
Search of "bi bi" patterns
Forcing or not level 4 at the start.

Last column indicates whether a SK loop and/or a "bi bi" pattern can be found.

Two puzzles have both
A small number of puzzles have none.
I have not seen "symmetry", but the program has been modified recently to include new "symmetry patterns" and it has not been validated yet.

EDIT checking first item, i saw that I missed one double "bi bi" with two different targets. (I already saw double "bi bi", but with redundancy). May be I missed others

One can see that in the present status of the program, "bi bi" pattern have unclear effect:

Normally, if the "bi bi" is of the form 123 123, effect is very strong
(eg: Trompe l'oeil)
With the form 1234 1234, effect can be very strong as in Golden Nugget if some super candidates of the "bi bi" pattern are immediately eliminated.
If as in Silver Plate no elimination is found at the start, a more precise analysis is requested. No idea for the time being what can come out at the end.

All puzzles not having the SK loop and solved in less than 3 seconds should be discarded from the list of hardest. They can be solved "easily" by a skilled player.
In the final list, it should likely be the case for puzzles solved in less than 3 seconds in the second column.

champagne



champagne

2017 Supporter
Posts: 7209
Joined: 02 August 2007
Location: France Brittany

CODE: SELECT ALL			
coly013, coloin	1.4	BB r2c7 r4c9 r8c3	BB r5c6 r3c9 r9c7
coly082, coloin	2.6	SK	
tarx0037, tarek	7.0	SK BB r4c6 r2c4 r8c6	
dudkamon02, coloin	3.5	SK	
coly012, coloin	3.7	BB r12c7 r4c8 r7c9	
tarx0035, tarek	28.1 1.5	BB r5c4 r4c2 r8c2	
tarx0009, tarek	15.1 13.9	BB r4c6 r2c4 r8c6	
tarx0105, tarek	56.2 57.6	BB r12c7 r4c8 r7c9	
tarx0104, tarek	58.3 57.3	SK	
Pearly0600-1803, tarek	9.9	SK	
tarx0006, Trompe_l'oeil	33.4 1.5	BB r3c7 r4c2 r6c8	
tarx0004, tarek	6.1	SK	
Pearly0600-1802, tarek	9.7	SK	
coly100, coloin	3.2	BB r4c4 r5c7 r6c3	
coly100, coloin	22.7 23.5	BB r12c7 r4c8 r7c9	
coly082, coloin	7.2	BB r12c7 r5c8 r8c9	
tarx0007, tarek	2.5	BB r4c6 r2c4 r8c6	
coly007, coloin	4.3	BB r12c7 r4c8 r7c9	
Pearly0600-2803, tarek	9.9	SK	
coly010, coloin	2.6	BB r2c17 r4c8 r7c9	
coly006, coloin	3.7	BB r2c17 r4c8 r7c9	
coly008, coloin	3.4	BB r2c17 r4c8 r7c9	
ultra000, tarek	6.2	SK	
tarx0100, tarek	40.5 1.9	SK r12c3 r2c5 r3c8	
tarx0119, tarek	63.5 1.7	BB r6c4 r5c4 r5c8	
ultra0013, tarek	3.4	BB r5c4 r4c2 r6c8	
tarx0010, tarek	53.9 2.0	BB r12c7 r4c8 r7c9	
pearly0600-3070, tarek	3.2	SK	
tarx0130, tarek	2.5	BB r6c4 r5c4 r5c7	
PlatinumBlonde, coloin	32.1 28.2	SK	
tarx005, tarek	17.5 17.9	BB r7c9 r3c7 r5c6	
tarx0134, tarek	3.1	SK	
tarx0002, tarek	8.3	BB r7c9 r3c7 r5c6	
tarx0141, tarek	12.0 17.2	BB r6c4 r4c3 r5c7	
tarx0005, tarek	16.0 18.1	BB r7c9 r4c3 r5c7	
tarx0151, tarek	13.0 15.2	SK	
tarx0010, tarek	2.5	SK	
pearly0600-4143, tarek	4.1	SK	
pearly0600-4205, tarek	8.3	SK	
pearly0600-3802, tarek	9.2	SK	
pearly0600-3230, tarek	9.5	SK	
pearly0600-3112, tarek	9.6	SK	
ultra003, tarek	4.6	SK	
tarx0003, tarek	6.4	BB r6c4 r5c4 r5c3	
tarx0004, tarek	5.3	BB r5c4 r4c3 r6c7	
tarx0003, tarek	6.1	BB r5c4 r4c3 r6c7	
tarx0079, tarek	4.7	BB r5c4 r4c2 r6c8	
coly100, coloin	28.6 27.7	BB r12c7 r4c8 r7c9	
coly134, coloin	32.0 34.0	BB r6c7 r4c2 r6c8	
tarx0114, tarek	4.3	BB r5c4 r4c2 r6c8	
tarx0014, tarek	5.8	BB r12c7 r4c8 r7c9	
Tungstori00, coloin	9.7 3.4	BB r5c4 r4c2 r6c8	
Golden Nugget, tarek	56.7 30.0	BB r12c7 r4c8 r7c9	
tarx0052, tarek	2.5	BB r4c6 r2c4 r8c6	
weekender1, coloin	56.8 3.6	BB r12c7 r4c8 r7c9	
tarx0075, tarek	22.5 18.3	BB r4c6 r2c4 r8c6	
CloudyBay, coloin	5.1	SK BB r6c5 r4c8 r5c2	
tarx0003, Fata Morgana	7.1 1.2	BB r5c4 r4c2 r6c8	
Pearly0600-1847, tarek	4.9	SK	
tarx0002, tarek	32.4 2.3	BB r5c4 r4c2 r6c8	
dudkamon03, coloin	3.2	SK	
tarx0130, tarek	8.0	BB r5c4 r4c3 r6c7	
tarx0140, tarek	8.3	BB r5c4 r4c3 r6c7	
tarx0137, tarek	23.3 4.3	BB r13c2 r5c3 r7c1	
coly004, coloin	4.4	BB r12c7 r5c8 r8c9	
tarx0121, tarek	42.3 1.3	BB r4c6 r3c1 r9c3	
tarx0011, tarek	7.2	BB r5c4 r4c2 r6c8	
coly105, coloin	4.3	BB r12c7 r4c8 r7c9	
tarx0145, tarek	5.5	BB r5c4 r4c2 r6c8	
tarx0013, tarek	23.8 1.9	BB r5c4 r4c3 r6c7	
Easter-Monster, JPF	4.4	SK	
Pearly0600-1801, tarek	33.0 21.6	BB r5c4 r4c8 r6c2	
tarx0007, tarek	6.4	BB r5c4 r4c3 r6c7	
coly009, coloin	1.5	BB r12c7 r4c8 r7c9	
SilverPlate, coloin	67.2 77.9	BB r6c5 r4c8 r6c2	
coly407, coloin	2.1	BB r2c3 r4c9 r8c9	
tarx0009, tarek	52.2 3.2	BB r7c9 r3c7 r5c8	
tarx0071, tarek	28.6 29.6	BB r5c4 r4c8 r6c7	
coly0103, tarek	4.7	BB r5c4 r4c3 r6c7	
tarx0130, tarek	3.0	BB r5c4 r4c3 r6c7	
coly001, coloin	3.3	BB r12c7 r4c8 r7c9	
tarx0059, tarek	26.1 23.0	SK	
BronzeMedallian, coloin	16.5 16.0	BB r6c5 r4c8 r5c2	
tarx0001, tarek	28.6 2.9	BB r13c2 r5c1 r8c3	
tarx0000, tarek	12.6	SK	
tarx0014, tarek	5.0	BB r5c4 r4c2 r6c8	

