







jgisland.pl

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J.G. Island

Software for solving orthodox chess 2-, 3- and moremovers

- All you need is set a position (or paste a FEN code), set a stipulation (#2 or more) and click the Start button
- For majority of compositions you will get the solution(s) in a split second
- The engine automatically makes a selection of heuristics for fast solving
- This set of heuristics is automatically relaxed, if the original one is too strict to obtain solution
- Manual selection of heuristics is also possible
- The better the processor (the more cores), the better user experience
- Support for Windows Vista, Windows 7, 8, 10, 11
- Almost every element of GUI has an associated tooltip information
- Orthodox 2-, 3- and moremovers only (no support for retro or fairy pieces)
- <u>Automatic heuristic selection</u> see diagram below
- Optimized brute force analysis (brute force and hybrid brute force)

Selection of heuristics				~
✓ Don't let bl.king move (unless immed.mate) ✓ allo Onn't let bl.king out of the edge	w exc Dynamically relax edge/ext.edge h 2/g7 on advanced pawn on figure(s) captured 0 1 es away defer check 0 1 sqrs) Ø applicable for ext.edge version 0 Ø skip defer check if balance cha Ø let program automatically dyn.rel Black piece not let leave main diagonal:	euristics 0 = off) noves DNLY nge impossible ax heuristics pawns Information	Let relax heuristics Show Let program run pass 2 (w tho Enable heur.fallback Sort indications K Cancel	ut heuristics)
 Don't let promoted queen or any figure move Don't let black queen check twice Don't let unblock figure Try reduce pos.to global reg. (endgame tablebase) Check position on 3 moves to mate Single queen mate Skip worst wh.moves One color play possible Key white figure Key diagonal Zugzwang position to return to Capture black knight Sea snake 	strict (less exceptions) A6 B6 C6	Pass 1: SH_KEE SH_DONTLETF SH_DONTLETF SH_SAVEQUEE Pass 1b: SH_KI SH_DONTLETF SH_DONTLETF SH_DONTLETF SH_DONTLETF SH_DONTLETF SH_DONTLETF SH_SAVEQUEE Pass 1d: SH_KI SH_DONTLETF SH_SAVEQUEE (CannotApply Pass 1e: SH_D SH_SAVEQUEE SH_3MOVESTO	EPKINGONTHEEDGE(ALMOST_S FIGUREUNBLOCK(EFF,A6,B6,C6), PROMOTEDQUEENMOVE, EN/ROOK, SH_3MOVESTOMATE EEPKINGONTHEEDGE, FIGUREUNBLOCK(EFF,A6,B6,C6), PROMOTEDQUEENMOVE, EN/ROOK, SH_3MOVESTOMATE EEPKINGWITHINEXTEDGE, PROMOTEDQUEENMOVE, EN/ROOK, SH_3MOVESTOMATE DLFUDYnamically) ONTLETPROMOTEDQUEENMOVE, EN/ROOK, SH_3SSERTBLACKKIN OMATE (CannotApplyDLFUDynamically)	TRICT), VE, GSURROUNDED, amically)
First run FindForcedMate FFM with other heuristics Let relax FFM	check+excps () threat #1() #1+() #2(d d captures of fig.in bl.king neighborh.in F No () Yes () Partially () Partially + initial time(s)	Pass 1f: SH_D(SH_SAVEQUEE (CannotApply	ONTLETPROMOTEDQUEENMO\ N/ROOK, SH_3MOVESTOMATE DLFUDynamically)	/Е, ОК



Engine's work can be peeked and adjusted Each engine's thread can be peeked separately

 \times J.G. Island Complete - Chess Moremovers File Position Problem View Variant Advanced Priority Help Language/Język/Мова 207. #28 W.A.Shinkman, 1910, Y188117, P1232084 8 7 1:36 d2-e1 d6-b4 6 d6-c5 d6-f4 d2-d3 d6-e7 d2-d1 d6-c7 d6-g3 d6-e6 5 d6-d7 d6-f8 d2-e2 d6-f6 c2-d4 d6-c6 4 c2-a1 d2-c1 c2-e1 c2-e3 3 d6-h2 d6-g6 d6-h6 d6-e5 2 d6-b8 c2-a3 c2-b4 1 a2-a3 d6-d5 r b а С d f e g h he Pass 1b SH(204884h) Safe mode ON TR=581MB GR=4.7GB Thrds=4*4+100 1. Ka1-b2 Ka5-a4 2. Kb2-c1 Ra6-a5 3. Kc1-d2 Ra5-a6 4. <mark>Kd^{2-e1} Ka4-a5 5. Ke1-f2 Ka5-a4 6</mark> Kf2-g3 Ra6-a5 7. Kg3-h4 Ra5-a6 8. Kh4-g5 Ra6-a Copy position to clipboard Ra6-a5 11. Kg7-f8 Ra5-a6 12. Kf8-f7 Ra6-a5 13. Copy FEN of the position to clipboard Kf8-g8 Nd5-e7 16. Kg8-h8 Ne7-d5 17. Kh8-h7 Nd Display position in new instance of program Ka5-a4 20. Kg5-h4 Ka4-a5 21. Qd6-f8 d7-d6 22. [Shift current move to be analyzed as the last one with the next move Skip to analysis of next move

Occasionally it may occur that the engine sorts possible moves for white not in the best way. An advanced user may want to adjust its work manually in such case. However note that it requires program option "Manul engine control" to be on.



Easy links to chess sites

Within one click you navigate to your favorite portals with chess composition





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Integrated endgame tablebases

4-piece and some 5-piece endgame tablebases provided in installer



5



Show max #n in endgame tablebases Fast access to complexities of positions

Adv	anced Priority Help Language/Język/Мова								
9	Select heuristics and find solution								
1	Select heuristics and find all solutions Shif								
	Sort indications								
Ж	Options								
	Save temporary register of current problem								
	Save temporary register of current problem as								
	Read temporary register of current problem from default file								
	Read temporary register from file								
	Clear temporary register of current problem								
	Skip analysis of current move and go to the next one								
	Display id of current position and copy it to clipboard								
	Run regression test (solve all problems in the current file)								
	Display current status of global register (precalculated data in memory)								
	Verify files of precalulcated data (global register) on disk								
	Verify files of precalulcated data on disk - resume from cur.pos.type								
	Show max #n for positions of this type + next position	Ctrl+M							



Integration with 7-piece endgame tablebases Tab "Position details" immediately loads WDL details (Win/Draw/Lose) from internet

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Integrated custom tablebases

Provided in program installer for a special wh.Q vs. bl.K position type

Possibility to save all the solution data

Data can be saved and reused – functionality that may be particularly useful for composers

Adva	anced Priority Help Lan	guage/Język/Мова						
9 9	Select heuristics and find sol Select heuristics and find all Sort indications		Ctrl+F5 Shift+Ctrl+F5 Ctrl+W					
≫	Options							
	Save temporary register of current problem							
	Save temporary register of current problem as							
	Read temporary register of current problem from default file							
	Read temporary register from file							
	Clear temporary register of current problem							
		Save temporary register data to disk	×					

Save temporary register data to disk $\qquad imes$							
Excpected max.file size:							
32 MB							
🗌 Compress data							
<u>O</u> K <u>C</u> ancel							

The current size of temporary data in memory is easily visible in the left bottom corner, near the Start icon (1.3M in the diagram below) :

Tested on thousands of compositions

Complete test suite runs more than 43h on more than 41.000 problems

Number of problems in test suite per #n

#n (#100+ in the last column)

Average time of solving per #n (up to #100+)

The diagrams above are for version 6.5 (rev. 965h). These are averages for problems that are within the test suite (there is still a set of moremover compositions that are beyond J.G. Island capacities).

The longest moremover in the test suite

Solution for this #210 is found in less than 10 minutes

🌿 J.G. Island Complete - Chess Moremovers - D:\chess\test\AdditionalTestProblems.cp 🦳 🗌 🗙													
<u>F</u> ile	Position	P <u>r</u> oblem	View	Var <u>i</u> ant	Advanced	Priori <u>t</u> y	<u>H</u> elp	Lang	uage/J	ęzyk/N	Лова		
C 2943. #210 Ottó Titusz Bláthy, 1890, <u>yacpdb=278027</u> Ottó													
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	Ê	2	2		1		÷	5	4. 5. 6.	Ka Kb Kc7	5-b6 5-c7 7-d8	Bc1- Bb2- Bc1-	b2 c1 b2
		1	Ï	æ				4	7. 8. 9.	Kd8 Ke7 Kf8	3-e7 7-f8 -g8	Bb2- Bc1- Bb2-	-c1 -b2 -c1
Ê			Ś)				3	10. 11. 12.	Kgt Kg7 Kf8	3-g7 7-f8 -e7	Bc1- Bb2- Bc1-	b2 c1 b2
			2					2	13. 14. 15.	Ker Kdt Kc7	7-08 3-c7 7-b6	BDZ- Bc1- Bb2- Ba1	-c1 -c1
lit.	2				S		E	1	17. 18. 19.	Ka Kb Ka	5-25 5-64 4-23 3-64	Bb2- h5-h Ba1-	-a1 4 -h2
a	b	С	d	е	f	g	h	En	20.	Kb4 Ka	1-a5 5-b6	Bb2- Bc1-	с1 b2
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During regression tests this problem as well as its mirror are solved in a single solution mode, which means that solving is stopped as soon as a solution is found. Here are the outputs from regression tests on the most recent version of the program (6.5, rev. 965h) :

[SnglSolution, 4thrd(s)] Test #2943 M0 ok (**599766** msec). [SnglSolution, 4thrd(s)] Test #2943 M1 ok (**568281** msec).

(Test suite run on AMD Ryzen 7, 3.2 GHz, 8 cores/16 threads)

J.G. Island – Chess Moremovers

Written in C++

- The multiparadigm programming language
- The most suitable for tasks involving maximum speed
- Possibility to mix high-level code with very low-level optimizations
- Used all possible tricks to make the program run as fast as possible
- Developed since 2009; more than 100k lines of code
- Robustness of multithreaded code verified using Assertive MultiThreading Library (AMTL) : <u>https://github.com/msterkowiec/AMTL/</u> (a very promising library that may be considered a side-effect project that was created during work on J.G. Island Chess Moremovers)
- LZ4 compression used due to its properties (outstanding decompression speed)
- Extensive regression test suite and unit tests of selected components
- Support for Unicode national characters
- Possibility to choose one of three available languages (Polish, English and Ukrainian)

Available in wemax.pl online store

- The program is released in three versions: Free, Light and Complete
- Windows installer can be downloaded from jgisland.pl
- Version Free has 30 sec. solving time limit, yet it's enough to solve majority of <u>moremovers</u>
- Version Light has 900 sec. solving time limit
- Version **Complete** has no limits
- License key for version Light or Complete can be purchased in wemax.pl online store: <u>https://www.wemax.pl/catalog/product/view/id/130575/s/group-</u> product-jgisland/category/332/
- Important details on <u>https://jgisland.pl/versions.html</u>