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Chest, (CHEST)

a [program for solving](#) orthodox [chess problems](#), such as [checkmate](#), [stalemate](#), [helpmate](#), [helpstalemate](#), [selfmate](#) and [selfstalemate](#) in N^[1]. Chest is under development since 1987, written in [ANSI C](#) by [Heiner Marxen](#), [Holger Pause](#) and [Thomas Rakovsky](#), while Heiner already started with a [mate-in-two](#) solver written in [Fortran II](#) in 1973 ^[2] ^[3]. Chest does not play chess, but proves shortest solutions or its absence. It was first released in December 1999 as [open source](#) ^[4]. **ChestUCI** by [Franz Huber](#), written in [Delphi](#) ^[5], is an [UCI](#) adapter for a slightly modified Chest 3.19, to run it from any [GUI](#) which can run [UCI chess engines](#).

Description

^[6]

Search

The main tree [search](#) function, utilizing a [transposition table](#), is [recursive](#), i.e. for a job of [depth](#) N this function does call itself several times with depth N-1, and always performs "[iterative deepening](#)", i.e. a job or subjob with a depth of 3 is first computed with a depth of 1, and if that fails, with a depth of 2 and if this also fails, with a depth of 3.

Board Representation

Chest uses a one-dimensional, [incremental updated](#) 16x24 [mailbox board representation](#) to not only apply [vector attacks](#) but also to allow any legal displacement vector between two non-border squares to be added to any legal square without probing memory outside the 16x24 array. Per [square](#), it keeps distinct [piece type](#) and piece color, and further [piece-sets](#) of direct and indirect [attacking/defending pieces](#). The redundancy pays off, since the attack info greatly speeds up the [generation](#) of [legal moves](#).

See also

- [Alybadix](#)
- [Checkmate](#)
- [Chess Problems, Compositions and Studies](#)
- [Chess Problem Solving Engines](#)
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Forum Posts

1999

- [CHEST 3.19 is available](#) by [Heiner Marxen](#), [CCC](#), December 18, 1999
- [Chest 3.19 is incredible!](#) by [Dann Corbit](#), [CCC](#), December 20, 1999
- [1924 NY Chess Championship -- chest analyzed mates so far](#) by [Dann Corbit](#), [CCC](#), December 27, 1999

2000 ...

- [Problem with CHEST](#) by [Jouni Uski](#), [CCC](#), January 04, 2000
- [Who can help me with Chest \(mate solver\)](#) by [Michel Langeveld](#), [CCC](#), August 23, 2000
- [Re: Chest \(German\)](#) by [Heiner Marxen](#), [CCC](#), June 03, 2001
- [The program chest?](#) by Kees van Iersel, [CCC](#), October 10, 2001
- [Nalimov's EGTBs \(long post with code\)](#) by [Heiner Marxen](#), [CCC](#), October 13, 2001 » [Nalimov Tablebases](#)
- [CHEST bugfix available](#) by [Heiner Marxen](#), [CCC](#), May 05, 2002
- [A new\(?\) technique to recognize draws](#) by [Heiner Marxen](#), [CCC](#), June 01, 2002 » [Corresponding Squares](#), [Repetitions](#)
- ['ChestUCI Ver.1.0' - a new UCI-engine for the problem solver 'Chest'](#) by [Franz Huber](#), [CCC](#), August 24, 2002
- [About CHEST](#) by [Jouni Uski](#), [CCC](#), September 18, 2002
- [CHEST vs. ALYBADIX](#) by [Jouni Uski](#), [CCC](#), October 23, 2002 » [Alybadix](#)
- [Small Bug in Chest UCI](#) by Michael Drexel, [CCC](#), May 23, 2004

2005 ...

- [ChestUCI 4.4 Update](#) by [Franz Huber](#), [CCC](#), February 14, 2006
- [Stunning Chest!](#) by [Jouni Uski](#), [CCC](#), September 02, 2007
- [ChestUCI 4.6](#) by [Franz Huber](#), [CCC](#), December 22, 2007
- [ChestUCI v5.0 released](#) by [Marek Soszynski](#), [CCC](#), March 05, 2008

2010 ...

- [ChestUCI Source Code](#) by Louis Zulli, [CCC](#), December 15, 2010
- [ChestUCI 5.2 update](#) by [Franz Huber](#), [CCC](#), March 08, 2011
- [Re: Perf\(3\) from 1978, with a twist!](#) by [Heiner Marxen](#), [CCC](#), December 09, 2011 » [Perft](#)
- [Wanted: A successor to Chest](#) by [Marek Soszynski](#), [CCC](#), June 25, 2012
- [CHEST anniversary!](#) by [Franz Huber](#), [CCC](#), December 18, 2014

External Links

- [Chest: A Program for Solving Orthodox Chess Problems](#) by [Heiner Marxen](#)
[Readme Long](#)
- [ChestUCI - Chess.com](#)

References

1. [^ Chest - Readme Long](#)
2. [^ Chest - Readme Long - History](#)
3. [^ Re: Perf\(3\) from 1978, with a twist!](#) by [Heiner Marxen](#), [CCC](#), December 09, 2011
4. [^ CHEST 3.19 is available](#) by [Heiner Marxen](#), [CCC](#), December 18, 1999
5. [^ Re: ChestUCI Source Code](#) by [Franz Huber](#), [CCC](#), December 15, 2010
6. [^ Description based on Readme Long](#)

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