

Table of Contents

[Programming Topics](#)

[Basics](#)

[Parallelism](#)

[Misc Programming](#)

[GUI Programming](#)

[Bug Hunting](#)

[Optimization](#)

[Standards](#)

[Position](#)

[Games](#)

[Protocols](#)

[See also](#)

[Selected Publications](#)

[Forum Posts](#)

[External Links](#)

[Computation](#)

[Paradigms](#)

[Misc](#)

[References](#)

[Home](#) * **Programming**

This is about general purpose [programming](#) topics with focus on computer chess - [programming languages](#),

[algorithms](#), [data](#) and various optimization techniques and standards.

Programming Topics

Basics

- [Algorithms](#)
- [Data](#)
- [Program](#)
- [Process](#)
- [Thread](#)
- [Programming Language](#)
- [HTML notes](#)
- [Space-Time Tradeoff](#)

Parallelism

- [Parallel Computing](#)
- [Parallel Prefix Algorithms](#)
- [Parallel Search](#)
- [SIMD and SWAR Techniques](#)

Misc Programming

- [Dynamic Programming](#)
- [Generic Programming](#)
- [Genetic Programming](#)

GUI Programming

- [Graphics Programming](#)
- [Graphical User Interface](#)

Bug Hunting

- [Debugging](#)
- [Logging](#)

Optimization

- [Avoiding Branches](#)

- [Performance Measurement](#)
- [Profiling](#)

Standards

[Position](#)

- [EPD](#) - Extended Position Description
- [FEN](#) - [Forsyth-Edwards](#) Notation

[Games](#)

- [PGN](#) - Portable Game Notation

[Protocols](#)

- [Chess Engine Communication Protocol](#)
- [Universal Chess Interface](#)

See also

- [Bit-Twiddling](#)
- [CPW-Engine](#)
- [Software](#)

Selected Publications

- [Maurice Wilkes](#), [David Wheeler](#), [Stanley Gill](#) (1951). *The Preparation of Programs for an Electronic Digital Computer*. Addison-Wesley Press; 1st edition, [amazon.com](#); 2nd edition 1957, [amazon.com](#) ^[1]
- [Stanley Gill](#) (1958). [Parallel Programming](#). *The Computer Journal*, Vol. 1, No. 1
- [Christopher Strachey](#) (1966). [System Analysis and Programming](#). *Scientific American*, September 1966, re-published August 23, 2011
- [Edsger Dijkstra](#) (1968). *Go To Statement Considered Harmful*. *Communications of the ACM*, Vol. 11, No. 3, [pdf](#) ^[2] ^[3]
- [Ward Douglas Maurer](#) (1968). [Programming: An Introduction to Computer Languages and Techniques](#). Holden-Day
- [Donald E. Knuth](#) (1968 ...). [The Art of Computer Programming \(TAOCP\)](#) ^[4]
 - Volume 1 - Fundamental Algorithms (1968)
 - Volume 2 - Seminumerical Algorithms (1969)
 - Volume 3 - Sorting and Searching (1973)
 - Volume 4 - Combinatorial Algorithms in preparation (five fascicles have been published as of April 2009)

Volume 4A - Enumeration and Backtracking

Volume 4B - Graph and Network Algorithms

Volume 4C and possibly 4D - Optimization and Recursion

Volume 5 - Syntactic Algorithms, planned (as of August 2006, estimated in 2015).

- [Donald Knuth \(1974\)](#). *Structured Programming with go to Statements*. [ACM Computing Surveys](#), Vol. 6, No. 4, [pdf](#) » [goto](#)
- [John Hughes \(1984\)](#). *Why Functional Programming Matters*. [Chalmers Tekniska Högskola, Göteborg](#), [pdf](#) » [Alpha-Beta](#)
- [Steve McConnell \(1993\)](#). [Code Complete: A Practical Handbook of Software Construction](#). [Microsoft Press](#)
- [Brian W. Kernighan](#), [Rob Pike \(1999\)](#). [The Practice of Programming](#). [Addison-Wesley](#), ISBN: ISBN 0-201-61586-X
- [Marek Strejczek \(2004\)](#). *Some aspects of chess programming*. [Technical University of Łódź](#), Faculty of Electrical and Electronic Engineering, Department of Computer Science, Supervisor [Maciej Szmit](#), [zipped pdf](#), [pdf](#)

Forum Posts

- [Big new ideas in chess programming](#) by John Smith, [CCC](#), September 19, 2013
- [Photographing Chess Clock](#) by [Harm Geert Muller](#), [CCC](#), October 10, 2016

External Links

- [Computer programming from Wikipedia](#)
- [Rosetta Code](#), [Rosetta Code from Wikipedia](#)

Computation

- [Model of computation from Wikipedia](#)
[Turing machine](#)
[Lambda calculus](#)
[First-order logic](#)
- [Parallel computing from Wikipedia](#)
[Bit-level parallelism](#)
[Instruction-level parallelism](#)
[Task parallelism](#)

Paradigms

- [Programming paradigm from Wikipedia](#)
[Aspect-oriented programming](#)
[Data-driven programming](#)
[Declarative programming](#)
[Dynamic programming language](#)

[Functional programming](#)
[Imperative programming](#)
[Inductive Logic Programming](#)
[Logic programming](#)
[Metaprogramming](#)
[Object-oriented programming](#)
[Procedural programming](#)

Misc

- [Dynamic programming from Wikipedia](#)
- [Generic programming from Wikipedia](#)
- [Genetic programming from Wikipedia](#)
- [Integer programming from Wikipedia](#) ^[5]
- [Stochastic programming from Wikipedia](#)
- [Programming tool from Wikipedia](#)
- [Horizon Chess - Main - Programming](#) by [Ron Murawski](#)
- [Useful Programming Documents and Books](#) from [Document archive](#)
- [Game programming lecture notes](#) by [Andy Thomason](#)
- [A Programmers Place](#) by [Maarten van Emden](#)
- [Program optimization from Wikipedia](#)
- [Programming Optimization](#) by [Paul Hsieh](#)
- [research!rsc](#) - Computer programming links, collected by [Russ Cox](#)
- [How Computer Chess Changed Programming](#) from [IEEE Spectrum online](#)
- [YouTube channel](#) by [Barbara Hecker](#) ^[6]
- [Chess Engine In C - YouTube](#) Videos by [BlueFeverSoft](#) » [Vice, C](#)
- [Programming A Javascript Chess Engine - YouTube](#) Videos by [BlueFeverSoft](#) » [JavaScript](#)

References

1. [^] [Electronic Delay Storage Automatic Calculator from Wikipedia](#)
2. [^] [Considered harmful from Wikipedia](#)
3. [^] [Coding Horror: I'd Consider That Harmful, Too](#) by [Jeff Atwood](#), October 25, 2007
4. [^] [The Art of Computer Programming from Wikipedia](#)
5. [^] [William Cook](#) (2009). *Fifty-Plus Years of Combinatorial Integer Programming*. [pdf](#)
6. [^] [Barbara Hecker's YouTube channel](#) by [Julien Marcel](#), [CCC](#), July 09, 2013

[Up one Level](#)