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= 120-READINGS

= Articles in Readings-sources/ and related web links.

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----- Lec-1 Intro-History -----

A collection of articles on defining computer science.

Denning-ResurgenceOfParallelism-2010.pdf
Denning-BeyondComputationalThinking-2009.pdf
Denning-ComputingIsNaturalScience-2007.pdf
Denning-ComputingParadigm-2009.pdf
Denning-GreatPrinciplesOfComputing-2010.pdf
Denning-IsComputerScienceScience-2005.pdf
Denning-TheGroundingPractice-2011.pdf
Denning-WhatIsComputation-2010.pdf

<http://www.youtube.com/watch?v=On-k-E5HpcQ>

Computer Architecture is Back: Parallel Computing Landscape, Dave Patterson.

----- Lec-5 Turing Machines -----

Schmidt-FormalModels.pdf

A long but very readable and detailed explanation of automata theory and Turing Machines. Lots of examples.

Hodges-TuringLogicalPhysical-2004.pdf

Historically oriented discussion of Turing's motivations and subsequent developments in defining computation, mind, and other topics.

Kondo-ReactionDiffusionBioPatternTuringMachine-2010.pdf

Turing Machines applied to biological processes.

Related Links:

<http://www.turing.org.uk/turing/scrapbook/machine.html>

The Alan Turing Internet Scrapbook. Lots of interesting bits and pieces about TMs and Turing, with many links.

<http://www.alanturing.net>

The Alan Turing Archive for the History of Computing.

<http://www.cs.odu.edu/~toida/nerzic/390teched/regular/fa/delta-star.html>

Introduction to Finite Automata. A long and mathematically complete explanation with Java applets for animation. Starts with simple vending machine examples, but quickly turns to mathematical treatment. Lots of examples of finite-state machines. Goes through DFAs, NFAs, regular languages, grammars, CFGs, Turing Machines, the Halting Problem, time complexity, P and NP, and NP completeness.

<http://courses.cs.vt.edu/~cs1104/ModelsComp/TOC.html>

Models of Computation. A short series of short pages that give mostly text-based illustrations of TMs and mathematical definitions. Also has a short introduction to computability.

<http://www.arts.uwaterloo.ca/~celiasmi/Papers/Turing%20Myth.central.jetai.1ce.nofields.html>

The Myth of the Turing Machine, The Failings of Functionalism and Related Theses, Chris Eliasmith, February, 2002. Interesting as a short introduction to cognitive science and the computational theory of mind. Has many classical references.

<http://www.theory.org/complexity/cdpt/html/cdpt.html>

Computation, Dynamics and the Phase-Transition, by Jeremy Avnet. An interesting article about Cellular Automata starting from TMs.

----- **Lec-6 Devices** -----

Irwin-VLSIintro-2002.pdf

Davis-VLSIoverview-2004.pdf

Zar-Harris-VLSIscaling-2005.pdf

----- **Lec-7 FSM implementation** -----

Barr-HowProgrammableLogicWorks-1999.pdf

Ezware-FlipFlopsAndRegisters-.pdf

Ezware-RegisteredLogicAndStateMachines-.pdf

Styles-MemoryAndClockedLogic-2006.pdf

Martin-PipeliningProjectAndGatingClocks-.pdf