

**Agenda:** A breezy introduction to computer science, artificial intelligence, and the course before we get down to work.

**Announcements:**

- Make sure to familiarize yourself with the policies and schedule (including all exam dates — the final is December 8th, 9am) outlined in the “Formal Course Description and Policies” handout.
- Students with experience at the COMS 100 level need permission of the instructor to enroll. To obtain permission, see Prof. Lee at her office, 4152 Upson, during one of the following slots: (a) Friday 8/26/05 11:50-12:30; (b) Monday 8/29/05 3-4; (c) Tuesday 8/30/05 11:30-12:30. In the case of conflicts with all these times, send email to Prof. Lee listing some possible appointment times.

Two quotations about computer science:

- A. The computer revolution is a revolution in the way we think and in the way we express what we think.
- B. Computer science is the study of the phenomena surrounding computers.

The surrounding context:

- C. (*from the same source as A.*) Underlying our approach to this subject is our conviction that “computer science” is not a science and that its significance has little to do with computers.
- D. (*from the same source as B.*) The founders of this society understood this very well when they called themselves the Association for Computing Machinery. The machine – not just the hardware, but the programmed living machine – is the organism we study.

And a useful thought to keep in mind:

- E. The “skin-of-an-onion” analogy is also helpful. In considering the functions of the mind or the brain we find certain operations which we can explain in purely mechanical terms. This we say does not correspond to the real mind: it is a sort of skin which we must strip off if we are to find the real mind. But then in what remains we find a further skin to be stripped off, and so on. Proceeding in this way do we ever come to the “real” mind, or do we eventually come to the skin which has nothing in it? — Alan M. Turing, “Computing machinery and intelligence”. *Mind* (59), pp. 433–460, 1950.

*Aside.* Found via Google: “Process Of Charging A Ribbon Blender Science Resources”  
<http://www.appliancesnfo.com/process-of-charging-a-ribbon-blender-science.html>

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## References and further reading

Quote A is from page xviii of Harold Abelson and Gerald Jay Sussman, *Structure and Interpretation of Computer Programs*, second edition (1996).

Quote B is from page 113 of Allen Newell and Herbert A. Simon, “Computer Science as Empirical Enquiry: Symbols and Search” (tenth Turing award lecture), *Communications of the ACM* 19(3), pp. 113–126, 1976.

See the following for more on showcase AI applications:

- Deep Blue: Murray Campbell, A. Joseph Hoane, Jr., and Feng-hsiung Hsu, “Deep Blue”, included both in *Artificial Intelligence* 134(1-2), pp. 57–83 (2002) and in Jonathan Schaeffer and H. Jaap van den Herik, editors, *Chips Challenging Champions: Games, Computers and Artificial Intelligence* (2002)
- DART: the assessment of its payoff comes from the U.S. Department of Commerce’s *Critical technology assessment of the U.S. artificial intelligence sector* (1994)
- ALVINN: Dean Pomerleau, *Neural Network Perception for Mobile Robot Guidance* (1993)
- e-rater: <http://www.ets.org/erater/>