

CS/ENGRI 172, Fall 2002: Computation, Information, and Intelligence
8/30/02: Lecture One Handout

Topics: An introduction to computer science; course information

Announcements: See the Newell and Simon handout for the reading assignments for the next three lectures.

Two quotations about computer science.

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

1. (*previous sentence*) 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.

2. (*cont.*) 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. (Newell and Simon, “Computer Science as Empirical¹ Enquiry: Symbols and Search”, tenth Turing Award lecture, 1976.)

1. (*cont.*) The essence of this change is the emergence of what might best be called *procedural epistemology* – the study of the structure of knowledge from an imperative view, as opposed to the more declarative point of view taken by classical mathematical subjects. (Abelson and Sussman, *Structure and Interpretation of Computer Programs*, MIT Press, 1985.)

¹According to the Merriam-Webster’s Dictionary, “empirical” means, “originating in or based on observation or experience; relying on experience or observation alone often without due regard for system and theory; capable of being verified or disproved by observation or experiment”.