CS/ENGRI 172, Fall 2003: Computation, Information, and Intelligence
8/29/03: Defining Computer Science

As an introductory class, it is natural to begin by asking what computer science is. Consider the following 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.

Context

To better interpret these quotes, we can look at them in the context of their surrounding sentences:

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 Empirical[1] Enquiry: Symbols and Search", 10th 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.)

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[1]According 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".