

Please read this paper by Prof. Jeannette Wing, on [“Computational Thinking”](#) (there are also video lectures by her you can see online, on this topic). Dr Wing explains the concept, and goes on to explain why it is important and how one might learn and/or teach it. Dr Wing is one of the most influential Computer Scientists around: she was a CS Professor at CMU, and then became VP of Research at Microsoft; and now is head of research and Professor at Columbia University. This paper was enormously impactful, and arguably led to the “CS4All” movement to teach programming to as many people as possible. You might say, this paper transformed CS education.

Based on what we have been talking about in the course, your task is to critically analyze this paper, and write up your own take on this paper, around 2500-3000 words. Consider these questions below (but please, choose your own outline/framing of the paper; don’t just use these questions as an outline) as a very *rough* guide of the kinds of issues you might discuss.

Primarily, we want your own *personal* critique of this paper, analyzed in ways that feel meaningful and important to you, as someone about to spend 40,000 - 50,000 hours of your life, writing code to make a living. Please write it on your own. Plagiarism is taken very seriously, and is always reported.

1. What are the strengths and weaknesses of this concept of “Computational Thinking”, as Dr Wing sees it?
2. How does the concept relate to what we’ve learned from some of the readings: Lessig, O’Neill, Arcas, Daub (especially)?
3. Would you change anything about Dr Wing’s vision? What? How?

This paper will be completed in two phases:

By April 15, you will submit the introduction paragraph (including thesis statement) and outline of your paper. By April 25, you will submit a completed 2500-3000 word draft of the paper, incorporating any feedback from your earlier partial draft. Late penalty is 25% for first day, 50% for second, and then afterwards no credit will be given. After submitting the first draft, Please make an appointment with the TA (if you like) to get feedback on your thesis and discuss writing plans. He will shortly announce office hours. You can also talk to me (during my office hours) or the TA to brainstorm, during office hours.

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