

AMSC/CMSC 662 Homework 1 , Fall 2013
Due: 9:30am Thursday, September 12.

Define the following terms, answer the indicated questions, and list your sources (url, citation to a book or article, etc.)

Aim for 200 words per answer, and write answers that your classmates would understand.

1. (4) Moore's law

What is it? Why should a computational scientist care? Sources?

2. (4) Exascale computing

What is it? How does this matter to a computational scientist? Why does power consumption matter? Estimate the power consumption of exaflop computer in a year and compare with power consumption of typical US house. (Clearly state your assumptions). Sources?

3. (4) Four dangerous computing/internet habits

Why is each dangerous? Sources?

4. (4) Data encryption

What is it? Why should a computational scientist know about it? (For example, think about working with medical records, or student grades, or information that is proprietary to your company.) What are the standard encryption methods? Sources?

5. (4) One internet tip or site that has been helpful in your work

What is it? Why is it useful? Sources?