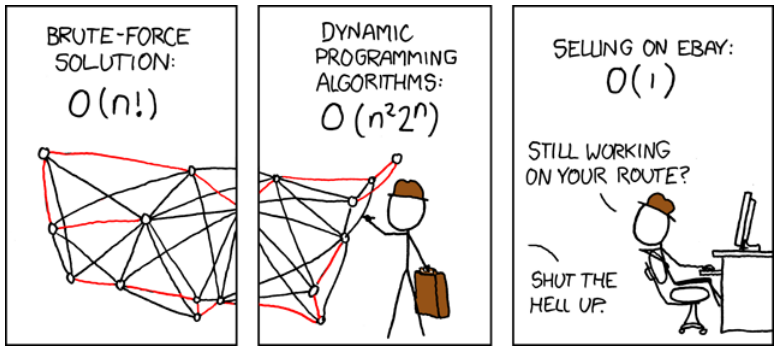
Today: The big picture.

Reminders: Final exam. Poster submission. Final term project submission. Class exercises due at final exam.

1. List the members of your group below. Underline your name.

2. Following our custom of *good bad jokes*, explain the following, due to Randall Munroe, from `http://xkcd.com/399/`, 2008-03-21.



(a) What is the $O(n!)$ algorithm in the first panel? Is it also $\Theta(n!)$? Why?
(b) What is the $O(n^2 2^n)$ algorithm in the second panel? Is it also $\Theta(n^2 2^n)$? Why?
(c) How is $n^2 2^n$ related to $n!$ asymptotically? Justify your answer.
(d) For a traveling sales-rep who needs to visit approximately a dozen cities in the US, what algorithm would you suggest? Why?
(e) How does your above answer change if the number of cities is 100 or 1000? Why?

[additional space for answering the earlier question]

3. (a) Describe a programming task you have encountered that maps to a problem with an efficient algorithm.
   (b) Repeat the above for a task that maps to a problem with no known efficient algorithm. How did you solve it?