

ASSIGNMENT 1A—DUE WEDNESDAY, FEBRUARY 7, 2007

A. Your mathematical experience.

Write a page or so describing the last math class you took. What did it cover? What did you learn? What did teacher and students do during class, and what did a typical homework assignment involve? Did you use calculators or computers (and if so, what for)? What did you like and/or dislike about the class?

ASSIGNMENT 1B—DUE FRIDAY, FEBRUARY 9, 2007

B. Abstracting a building.

Together with a partner from the class, choose a campus building.

1. Sketch a map of the building, floor-by-floor if appropriate. This doesn't need to be fancy or to scale, but should show approximately how the rooms are located and connected. (If you choose a large campus building, it may well have maps posted—be sure to check.)
2. Draw the *access graph* of the building. The vertices should correspond to spaces (such as rooms or halls), while the edges will correspond to connections between spaces (such as doors).

One way to organize this graph is to put an “outside world” vertex at the bottom, the rooms you can enter directly from outside above that, and so on. Another way to organize would be to separate the floors. Try to make a clear, uncluttered drawing of your graph, one that displays the important connections well and that has few crossing edges.

If you find yourself debating an issue (to include closets? to treat hallways as vertices or as edges? to assume all rooms on a hallway are laid out the same way—even though you haven't been in every one?), make a decision and stick with it. You should, however, describe the assumptions you make in the accompanying documentation.

3. Write a couple of paragraphs describing your map and access graph. What building is this? What assumptions did you make in drawing your graph?

Most importantly, what can you tell about the building from the access graph you've drawn?

Can you see which spaces are private? which spaces are public?

What kinds of spaces are connected to each other—and do those connections (or the lack of certain connections) help the building to function?