

# CSCI 1320 (Principles of Algorithm Design I), Fall 2008

## Homework 1

**Assigned:** September 11, 2008.

**Due:** September 18, 2008, at 5pm.

**Credit:** 20 points.

### 1 Reading

- Introductory material about Linux commands and `vi`, linked from the “Lecture topics and assignments” page<sup>1</sup>.
- Section D.1 in the textbook.

### 2 Problems

Answer the following questions. You may write out your answers by hand or using a word processor or other program, but please submit hard copy, either in class or in my mailbox in the department office.

1. (5 points) Convert the decimal number 53 to binary, octal, and hexadecimal. Show your work.
2. (5 points) Convert the hexadecimal number A1 to decimal. Show your work.

### 3 Programming Problems

(For this assignment, you won't really be programming, but you will be doing something on a computer, and submitting your answers in the way you'll submit your programs in later assignments.)

1. (10 points) For this problem your mission is to learn a little more about the text editor I teach in this course, `vi`. Do the following:
  - Open a terminal window (as we did in class), and start the interactive tutorial by typing `vimtutor`. Work through at least Lesson 1, more if you have time.
  - Now use what you have learned to create a text file in which you describe your experience so far with `vi` — likes/dislikes, things you'd like to be able to do but don't know how to, etc. You could call it `vi.txt` or `learning-vi.txt`. (Avoid names with spaces for now. I'll explain why in class.) A good place to put this file would be in a directory (folder) called `CSCI1320`. It doesn't need to be a program like the ones we've written in class — just plain text.

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<sup>1</sup>[http://www.cs.trinity.edu/~bmassing/Classes/CS1320\\_2008fall/HTML/schedule.html](http://www.cs.trinity.edu/~bmassing/Classes/CS1320_2008fall/HTML/schedule.html)

- Send me an e-mail message (to [bmassing@cs.trinity.edu](mailto:bmassing@cs.trinity.edu)) with your text file as an attachment. Probably the simplest way at this point is to start a Web browser (there should be an icon on your toolbar that does this — hover the mouse over each of them until you find the right one), access your Trinity e-mail via the [Web interface](#)<sup>2</sup>, and proceed as you usually would to attach a file. Use a subject line that mentions the course and the assignment (e.g., “csci 1320 I homework 1” or “PAD I homework 1”). Please send this mail from your Trinity e-mail address even if you have another e-mail address; this is so I can tell that it’s homework and who it’s from (otherwise it might mistakenly end up in my junk-mail folder).
2. (Optional — up to 10 extra-credit points) I mentioned in class that there are many other text editors available on typical UNIX/Linux systems. For extra credit, use one of them to write a short text file, as described in the previous problem. Send me this file by e-mail, as described above. (You can send both files in a single message or send them separately, whichever is easier.)

Which editor should you try this with? My vote is for **emacs** — it’s also widely available on UNIX/Linux systems, and I know enough about it to be able to try to answer your questions. Start it by opening a terminal window and typing **emacs -nw**. This should give you a page of instructions. Press control-h and then t to start an interactive tutorial. Work through as much of this tutorial as you need to in order to create and save a text file.

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<sup>2</sup><https://exchange.trinity.edu/exchweb/bin/auth/owalogon.asp?url=https://exchange.trinity.edu/exchange&reason=0>