

CSC104 – THE HOW AND WHY OF COMPUTING  
WINTER 2008  
ASSIGNMENT 1

This assignment is due by Friday, February 1, 2008. Late assignments will not be accepted except under *exceptional* circumstances and accompanied by a written explanation.

There will be a 36-hour blackout period prior to the submission date. That is, no questions will be answered by the instructor or the TAs after 12:00 noon on Thursday, January 31st. For this reason, it is a good idea to start early, to take advantage of available instructor and TA time, and to get a clear understanding of what you need to do.

This assignment has several components, as follows, all involving the use of the CDF computers. (These components are sometimes tested individually, sometimes in combination, by the exercises below.)

- Log in to your CDF account.
- Create files with specified contents.
- Run a web browser, and click on things. Visit a web page whose URL you have to type in from paper.
- Submit files (for grading) using the CDF “submit” command from the command-line.
- Send and read e-mail on your CDF account using the “PINE” e-mail program.
- Type other simple commands on the command-line.
- Create directories. Put files into specified directories. Look through directories.
- Identify some hardware and software components of computers in the CDF labs.

(Please note that this assignment is worth less of your course grade than the subsequent assignments, which will involve more problem-solving and less explanation.)

## What you have to do

1. You will have to log in to your CDF account to do most of the following. Please check now that you can do this, and that you can get in to the lab with your T-card, and so on. If you try to get in to the lab for the first time on February 1st and can't do so, that will not be accepted as a reason for lateness!

The tutorial on lab familiarization (Friday of week 2) should help you with this assignment.

2. Use the *scite* editor to create a file in your home directory named **hello**. The contents of this file should be a single line which says only:

**Glad to be back at U of T!**

3. At a command-line (the % prompt), type: `cat hello` This will show you the contents of your file by that name. Spaces and the *return* key will be ignored in grading (if it doesn't end with a *return*, your next % prompt will appear in the middle of the line), but other than that, the file should say simply: **Glad to be back at U of T!** If it doesn't, go back and fix it.

4. Submit this file for grading. You'll get the point for this if it has the correct contents and is correctly submitted, and you won't if it doesn't! Here is the submission command:

```
submit -c csc104h -a a1 hello
```

This command specifies the course name, the assignment name, and the file you're submitting.

The following command will show you the files you have submitted for assignment one so far:

```
submit -l -c csc104h -a a1
```

(That's *minus ell*, not *minus one*.) The file `hello` should now be listed there. It will probably have size 27, for the 26 characters `Glad to be back at U of T!` plus a *return* key. (But as stated above, spaces and returns won't count for this assignment mark; so it's ok if the size is 26, for just the 26 letters, or a little more than 27, representing some further spaces or return keys, so long as the only letters in the file are `Glad to be back at U of T!`)

5. In your home directory, create a directory named `q5` (short for *question 5*); Inside that, create a subdirectory named `abc`; Inside that, create a file named `file5`. This file can have any contents.

You can view this file from the command-line from your home directory by typing: `cat q5/abc/file5`. This complex file name is called a *path name*; it gives a path from your home directory to the file, going through other directories.

To check the successful completion of this point for grading purposes, run the following command (type it at a command prompt):

```
/u/faye/104/checkq5
```

This will check whether you have satisfied the requirements of this question, and will store the answer for grading purposes.

(Note the use of a path name to specify a file in faye's home directory. Path names beginning with a slash (not just having slashes in the middle) are absolute path names, which start from the *root directory* rather than from your current working directory.)

6. Use the PINE e-mail program on CDF to send a test message. To start PINE, you can type: `pine` (not capitalized) at a command prompt (and then you can press `e` to get past the *greeting* screen).

Press `c` (for *compose*) to start a new e-mail message. Send an e-mail message to the following exact address: `faye@cs.toronto.edu`

The e-mail message must contain the subject: `104A1-Test Message`

The `^` symbol in the commands listed at the bottom of the screen while composing a message means that you hold down the *Ctrl* (*control*) key while pressing the character; e.g. to send the message, hold down *Ctrl* and press the `x` key.

You will not receive a reply. You will get a point for this assignment item if the mail is successfully sent. A typo in the e-mail address will hopefully cause you to receive a "bounce" message, so check your CDF e-mail later, and if it bounces, fix your error and try again. However, a typo is not guaranteed to generate a bounce message. Enter the address correctly.

For this assignment, you must send the mail from your CDF account, and you must do so using PINE. (Yes, there are many good e-mail programs which one can use, in general; however, you should be able to use a particular one of them if directed!) The e-mail message can have any message contents.

Use the `'q'` command (while not composing a message) to quit the PINE program. PINE often displays important messages at the bottom of the window, so look there while using it.

I suggest sending and receiving e-mail messages with other students in the lab to experiment with this system. Within CDF, you can send mail to someone by simply using their CDF logname as e-mail address, with no `'@'` (e.g. `c7abcdef`). On the internet in general (including from CDF), you can reach a CDF account by e-mail by suffixing its logname with `@cdf.toronto.edu` (e.g. `c7abcdef@cdf.toronto.edu`).

7. Some time on Tuesday January 15th, and again on Tuesday January 22nd in case you make a mistake with the first one, there will be an automated e-mail message sent to your CDF account from "faye" with subject line `CSC 104 example message`. (Contact me (faye) if you don't receive it.) Read this message using PINE, and press `s` to save it into a file. Use the file name `ex2` (short for *example #2*).

This `s` command has actually put the message into a file by that name inside your `mail` subdirectory. You can therefore view it from a command prompt by typing `cat mail/ex2`.

You should then submit the file for grading purposes with the command:

```
submit -c csc104h -a a1 mail/ex2
```

8. Examine the directory `/u/csc104h/winter/pub` (e.g. using *Konqueror*, or any other means). It contains subdirectories (directories inside the directory). Look through the subdirectories and find a directory

whose name is your logname (e.g. c7abcdef). Within this directory there is a file entitled `q8solution`. Submit this file from the command line. For example, if you found this directory in the directory `/u/csc104h/winter/pub/beep/bop`, and your CDF logname is c7abcdef, then you would type:

```
submit -c csc104h -a a1 /u/csc104h/fall/pub/beep/bop/c7abcdef/q8solution
```

9. Run the Firefox web browser or any other web browser and go to the URL

```
http://www.cs.toronto.edu/faye/104/cgi-bin/marks/getmarks.cgi
```

Enter your student number and in the fields in the form, and press **Get Marks**.

Create a text file named `question9` containing the mark supplied by this webpage to you for Q9 (out of 150 – not the group average that is shown), and submit it.

10. Print the form supplied on the course web page for answering this question, fill in your name and student number and tutorial section, write your answers in pen, and put the page in the dropbox labelled *CSC 104* in BA 2220.

This question asks you to observe a few things about or on the CDF lab computers. Some of the computers' wiring paths are a bit trickier than others, so I suggest that for parts b and c (at least) you examine a computer in BA 2210, BA 2220, or BA 3185.

- (a) What is the name of the manufacturer of the CDF computers?
  - (b) Examine the cables on the back of the system unit. One of the cables is a security cable which loops through the monitor and the system unit; this cable is not electrical. Most of the electrical cables are black but one of them is either grey or white (there are some computers with grey ones and some with white ones). Where is the other end of this grey or white cable? (Please do not open or disconnect anything when investigating the answer to this question!)
  - (c) There are four other electrical cables plugged in to the back of the system unit (the cables themselves are black, although some of them have other-coloured components right at their ends). Where are the other ends of these cables (where do they go)? (List all four answers.)
  - (d) The CDF computers are running *Linux*, which is a public reimplementation of the UNIX operating system which is *free* in certain legal and philosophical senses. (If you are interested, you can read about the *free software movement* at <http://www.gnu.org/philosophy/shouldbefree.html>) Linux-based software systems are distributed by many different organizations. Determine the name of the linux distribution running on the CDF computers.
  - (e) To what country does the author of the text editor “gvim” urge you to send charitable donations?
11. Before you decide that you have completed this assignment, check the list of files submitted for assignment one under your CDF account by typing the command: `submit -l -c csc104h -a a1` You should expect to see the following file names there:

```
hello - your file which just says "Glad to be back at U of T!"
ex2 - the e-mail message you submitted
q5report - created by /u/faye/104/checkq5 in step 5 above
q8solution - the file you located in step 8
question9 - your answer to question 9
```

Any additional files are not a problem; we'll ignore them. But you need to have all of the above files for full marks. (You also have to send the e-mail message to `faye@cs.toronto.edu`, and to submit your answer to the last question on paper in the drop box.) You can re-do any of the above steps by adding the `-f` option to the `submit` command line, (or to `/u/faye/104/checkq5`), at the beginning of the command (e.g., right after the word `submit`) as a separate word (i.e. with spaces between it and any other word). Whatever version of each file you submit last (but before the end of February 1st) is the one that counts.

12. Always remember to log out before leaving the computer.