

THE UNIVERSITY OF WESTERN ONTARIO  
DEPARTMENT OF COMPUTER SCIENCE  
LONDON CANADA

*Software Tools and Systems Programming*  
(Computer Science 2211a)

**ASSIGNMENT 1**

Due date: Tuesday, September 25, 2018, 11:55 PM

1. Answer the following questions.

- a. What is an operating system?
- b. What is a kernel of an operating system?
- c. What is a shell in Unix?

2. For this question, we assume that you are in directory  $\sim/Courses/CS2211a/Asns/asn1$  (and, of course, all the directories along the path exist). In this directory, create two directories, *dir0* and *dir1* and two files *df0* and *df1*. In *dir0* create a file *dir0*. What command do you use to create a directory? What command do you use to create a file?

3. Answer the following questions for the use of **ls** command. And then demonstrate your answers by typing the appropriate command and capture the screen with **script** command assuming that you are in directory  $\sim/Courses/CS2211a/Asns/asn1$ . For this question, please use **/usr/bin/ls** in *compute.gaul.csd.uwo.ca*.

- a. What option(s) should we use if we want to display permission information?
- b. What option(s) should we add to **ls di\*** to display permission information of *dir0* and *dir1* but not their contents?
- c. What is the result of **ls \*** and why?
- d. What is the result of **ls \*\*** and why?

4. Answer the following questions for the use of **find** command. And then demonstrate your answers by typing the appropriate command and capture the screen with **script** command assuming that you are in  $\sim/Courses/CS2211a$ .

- a. What option(s) should we use if we want to display recursively all the directory names?
- b. What option(s) should we use if we want to display recursively all the files (but not directory) whose name start with *d*?
- c. What option(s) should we use if we want to display all the files that have been written (created or modified) within the last 48 hours? (hint: check mtime option of find command)