# THE UNIVERSITY OF WESTERN ONTARIO

## DEPARTMENT OF COMPUTER SCIENCE
LONDON                                    CANADA

*Software Tools and Systems Programming*
(Computer Science 2211b)
*ASSIGNMENT 1*
Due date: Tuesday, January 24, 2017, 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 $\sim/Courses/CS2211b/Asns/Asn1$ (and, of course, all the directories along the path exist). In this directory, create two directories, *dir* and *dir1* and two files *df* and *df1*. In *dir* create a file *df*. 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 $\sim/Courses/CS2211b/Asns/Asn1$. For this question, please use **/usr/local/bin/ls** in obelix.

   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 dir 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 $\sim/Courses/CS2211b$.

   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 24 hours? (hint: check mtime option of find command)