CSC 419 - PL - Assignment 6

Due date: **Thursday, April 25, 2019, before midnight, upload in home folder of class**

We recommend SWI-Prolog for the programming exercises. The latest version can be downloaded here: http://www.swi-prolog.org/. It is also available on lab computers.

Please do not copy solutions from the web. Points will be deducted for copied solutions.

Exercise 7.1

(a) Compare the concept of data typing in C with that of Prolog.
[2 points]

(b) What is the general form of a proposition in clausal form?
[2 points]

(c) What is the main difference between imperative language and declarative (logical) programming languages?
[2 points]

(d) Explain two ways in which the list-processing capabilities of Scheme and Prolog are similar
[2 points]

(e) In what way are the list-processing capabilities of Scheme and Prolog different?
[2 points]

Exercise 7.2

(a) Write a Prolog program that includes a set of facts either about your family relationships, or about another topic of your choice. Include at least five facts and at least two inference rules in the program. Run the program with at least two queries in which the system must make inferences for variables. Report the results.
[5 points]

(b) Write a Prolog program that returns a list containing the union of the elements of two given lists.
[5 points]