**CS 3050 Programming Assignment # 1. Name : Zhiqian Zhou**

**Submitted to Blackboard, due at 11:59pm on Feb. 27, 2018.**

In this assignment, you will develop a C program of micro-version of Facebook using Hash Tables and Linked Lists. Specifically, your program will accept from input a sequence of commands of the following forms, one command to a line, such as:

• P ⟨name⟩ – Create a person record of the specified first name. You may assume that no two people have the same first name.

• F ⟨name1⟩ ⟨name2⟩ — Record that the two specified people are friends.

• U ⟨name1⟩ ⟨name2⟩ — Record that the two specified people are no longer friends.

• L ⟨name⟩ — Print out the friends of the specified person.

• Q ⟨name1⟩ ⟨name2⟩ — Check whether the two people are friends. If so, print “Yes”; if not, print “No”

• X – terminate the program.

For instance, this is one possible input and output:

Input Output

P Sam

P Liza

P Mark

P Amy

F Liza Amy

F Liza Mark

F Amy Sam

L Amy Liza Sam

L Sam Amy

U Liza Amy

L Amy Sam

Q Liza Mark Yes

X

• Try to make the program as efficient as possible.

• You don’t need to write the data into a file. All the entries should be saved in memory.

• Your program should compile using gcc on a unix/lunix machine. Using a makefile is encouraged but not required. You can also provide a readme file if needed.

• Although not encouraged, you may use g++ for a C++ code. Provide a readme file if you use C++ to explain how to compile and run the program. No other programming language will be accepted.