**CS2750 System programming and Tools Fall 2018**

**Project #4 [90 points]**

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Due date is Monday, 11/05.

1. [20 points] Write a program that finds the “smallest” and “largest” in a series of words. The user enters one word at a time; the input terminates when a user enters any word containing 3 characters. When all words are entered, the program should print, which word comes first (“smallest”) and which word comes last (“largest”) in lexicographic order. You are NOT supposed to sort incoming strings.

Below is an example of a session:

Enter word: eleven

Enter word: twenty

Enter word: seven

Enter word: two

Smallest word: eleven

Largest word: two

1. [15 points] Write a program that prints its command-line arguments in reverse order. For example, if the name of your executable file is reverse and you run your program by typing

reverse one two three

the output should be:

three two one

1. [30 points] Write a C program implementing Linux **tr** command. You have to specify both symbols and two file names as command line arguments.
2. [25 points] Write a program that creates a link list storing integer values. Implement functions for the following operations: (1) insert a new node in the beginning of a linked list; (2) search a linked list for a specified integer value; (3) remove a node with a specified integer value. In your output show that all three functions work properly.