**Priority Queue Project**

A priority queue is a First In First Out structure with a twist; if something more important comes along, it can cut in front of another item in a queue. Many of the queues we encounter in real-life are priority queues. For example, at an ER the most life threatening injuries are treated first, in spite of how many other people may be waiting. Many amusement parks will let disabled or VIP people get on a ride immediately, instead of standing line for hours.

For this project, you will need to create a priority queue which stores items in the order they are received, but also bumps higher priority items in front of lower priority ones. You won’t need to worry about dequeueing items for this project, just make sure they make it to the right spot in the queue.

Write a program that accepts input from the command line and correctly orders the input items based on the order they were input and the priority they were assigned. The input will be in the format of a name (String) followed by a number (Integer). Each string-number pair will be entered one at a time. A higher number indicates a higher priority.

You may assume that no item will have the same name, but multiple items may have the same priority. You may assume that the input will always be valid, that the names will be of reasonable length (<10 characters), and that the numbers will always be integers >0. If two items have the same priority, the first one entered should still be the first in the list. Once all the items are entered (a blank item signals that input is complete), print out a list showing the order they are in. For example, the following input:

Sally 2

Joe 3

Bob 2

John 1

Jane 5

Jill 5

(blank)

Produces the following output:

Jane

Jill

Joe

Sally

Bob

John

The first (highest priority) item is at the top, and the last (lowest priority) item is at the bottom. Please note that you must roll your implementation of the priority queue. You may NOT use a priority queue included in your language’s library, such as the priority\_queue included in the C++ STL.