

INFSCI 2610 Data Structures  
Homework assignment 4  
Due March 29

1. [*Programming assignment*] Implement the heap-based priority queue – consider only the basic priority-queue ADT defined in Program 9.1. This will involve composing the various pieces of code given in the book. Your program should ask the users to (1) add numbers in the priority-queue as many times as they want, (2) delete the maximum number. Note that until the user indicates that he wants to exit from the program, he should be allowed to add new numbers and delete existing maximum numbers. **(70)**
  
2. Do the following problems from the book **(30)**
  - a. 10.1
  - b. 10.2
  
3. [*Reading Assignment*] As I mentioned in the class, I will not be able to take class on March 22. I am assigning the following subsections as reading assignments. They are basic concepts on graph from the second book (Part 5). I will have the next quiz devoted to this reading assignment.

Read subsections 17.1 through 17.2

Basic definitions

Graph ADT

Adjacency matrix representation (17.3)

Adjacency list representation (17.4)

Simple, Euler, and Hamilton Paths (17.7)