

## COMP2011

### Lab and Tutorial Eleven (Total Marks: 100)

**Deadline 23:59, 2 Dec, 2014**

1. Download the lab11-1.java program and run the program by displaying the heap. You can see that this is a **max-heap** in which the value of a node is at most the value of its parent (except the root). Revise the class Heap (all methods related) to implement a **min-heap** so the value of a node is at least the value of its parent (except the root).
2. Download the lab11-2.java program and run the program by displaying the vertex sequence with DFS (Depth-First Search). You can see that Vertices F and G are not included as they are not connected with A. Revise the method dfs() so it can display all connected components based on DFS. For the given program, it outputs with the following format:

Visits:

Connected Component 1:ABCDE

Connected Component 2:FG

#### **What to submit:**

- (1) The report that contains the output of your programs.
- (2) The java source code of your programs.