

ALGORITHMICS

ASSIGNMENT – 2 (Due: 10 March 2016)

The objective of this assignment is to appreciate the use of heap data structure in improving efficiency of an algorithm.

Implement Kruskal's algorithm in two ways: find minimum using (i) heaps and (ii) standard select-min procedure. Keep the other procedures of *find* and *union* same in both the programs.

Input specification: The connected undirected weighted graph is given as an edge list with number of nodes n given in the first line and the edges given from next line onwards: edge and its weight per line, nodes separated by a space. For eg. node node weight

```
5
1 2 2
3 4 2
2 5 1
3 2 3
4 5 4
3 5 1
4 2 2
1 3 1
1 5 3
```

Run your program on an input file and output the MST, its weight and the complexity measured by the total number of times the loop on edges is run by the algorithm.