

# CSCI 338—Algorithm Design and Analysis

## Programming Assignment 5: Prim's algorithm

Due: Wednesday, March 22, 2017

This is an individual assignment.

This assignment is to implement Prim's algorithm for minimum spanning trees using an adjacency-matrix graph representation on a weighted undirected graph.

Prim's algorithm is in Section 5.1.5 of the book. Note that the only difference between Prim's algorithm and Dijkstra's algorithm is the way they assign the distance/cost to each vertex. Therefore, the easy way to do this assignment is to modify Assignment 4 to compute Prim's algorithm. You can even use the same test cases, but do be sure you test both algorithms on graphs where the results will be different.

Bonus question 1 (0 points): identify the periodical in the Alcuin Library that features a Dijkstra this month.

Bonus question 2 (2 points): verify whether the two Dijkstras are related.