Programming Report # 5

Dijkstra's Algorithm

Due March 29, 2010

For this report, you are going to implement and test Dijkstra's algorithm. There will be no timing or timing graphs, but you are still expected to be thorough in your explanations of methods, algorithms, etc.

Experiment #1:

Given the graph supplied, find the shortest paths between each of the following vertices in the graph.

Vertices: 1, 18, 29, 126, 212, 272, 289, 336

Experiment #2:

Assuming that each of these vertices lie along a minimal, non-branching, non-cyclical path through the graph, in what order do they appear on the path? This will require finding, for each vertex in the list, the two other vertices closest to it (that haven't already been seen). Hint: start at vertex 1.

Bonus:

The graph has a secret. What is it? How did you find it? Visually demonstrate it. How does the path found above relate to the graph as a whole?