Word Ladders Report

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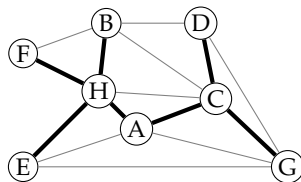
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Results

The following table summarizes our results:

Input file	MST total weight
USA-highway-miles.txt	16598
tinyEWG-alpha.txt	183

The MST we found in tinyEWG-alpha.txt can be drawn like this:

2-7 34.00000 1-2 36.00000 0-2 26.00000 2-3 17.00000 3: 3-6 52.00000 1-3 29.00000 2-3 17.00000 4: 6-4 93.00000 0-4 38.00000 4-7 37.00000 5: 1-5 32.00000 5-7 28.00000 6: 6-4 93.00000 6-0 58.00000 3-6 52.00000 6-2 40.00000 7: 2-7 34.00000 1-7 19.00000 0-7 16.00000 5-7 28.00000 4-7 37.00000

Implementation details

We implemented the algorithm of [. . .], using [. . .].[1] The total running time for implementation is $O(n^3 + \log^2 m)$.[2]

We implemented the algorithm of Prim using the first-in-first-out (FIFO) priority queue. In order to check connectivity we assign a boolean to each vertex to keep track whether the vertex has yet been visited or not.

[1] Explain what you did. Prim? Kruskal? Which priority queue? How did you check connectivity? Be very brief. Three sentences are a lot.

[2] Replace as necessary. Use n for the number of vertices, m for the number of edges in the input graph.