Connected Cities

The Connected.7z file contains a NetBeans project created in response to the “Connected Cities” challenge.

Most code should be self-explanatory however here are a few notes:

I have chosen the Graph data structure as it seemed to fit the requirement well (perhaps was even suggested). The code contains the following:

Connected.java – Consists of main method that creates both graphs objects and search object and kicks off the search.

SymbolGraph.java reads the data file using FileRead.java. The data file is read only once and lines are then split on “,” (a comma). I trim the leading and trailing spaces to handle at least some of the typos.

Then the vertex names to vertex integers map is created for use by the Graph.java that maintains the graph data structure.

Once both graphs are created the SearchForPaths.java searches for existence of an edge between two vertices (two city names entered on the command line). A “yes” or “no” answer is then printed.

Note:

1. The Graph and Search data structure are very simple just to fit the requirement of finding if the path (the edge in Graph Theory) between two cities. They do not have methods customarily included in such classes such as for finding shortest path between two cities or all connections available to a vertex. That is to clarity of the code and for performance reasons.
2. Please note that the quotation marks are needed when specifying a city name with a space in it (as in New York). Leading or trailing spaces around city names are acceptable.
3. When creating this code I used the book “Algorithms” by Sedgewick and Wayne as a reference.