Math 203
Hamiltonian Circuit worksheet

Suppose you wish to plan a trip, starting in Lincoln, visiting Blair, Fremont, Hastings and Lexington in some order, and then returning to Lincoln. The following is a table of distances between these cities:

	Fremont	Hastings	Lexington	Lincoln
Blair	24	159	211	66
Fremont		137	190	53
Hastings			89	101
Lexington				166

A. Draw (neatly) a complete graph with the five cities at the vertices, and label each edge with the distance between the two cities.

B. How many different trips (circuits) are there (starting and finishing in Lincoln)? Explain.

C. Use the nearest-neighbor algorithm starting at Lincoln, and the cheapest-link algorithm to find Hamiltonian circuits for your trip.

D. Does repetitive nearest neighbor provide a better result than nearest neighbor in this case?