

Section 11

CSCI E-22

Will Begin Shortly

Double Hashing

For our example, we'll use the same keys from last time, and the following hash functions

- $h1(x)$: index related to the first letter of the word ($a = 0, b = 1, \dots$)
- $h2(x)$: length of the word ($h2(\text{"apple"}) = 5$)

apple, cat, anvil, boy, bag, dog, cup, down

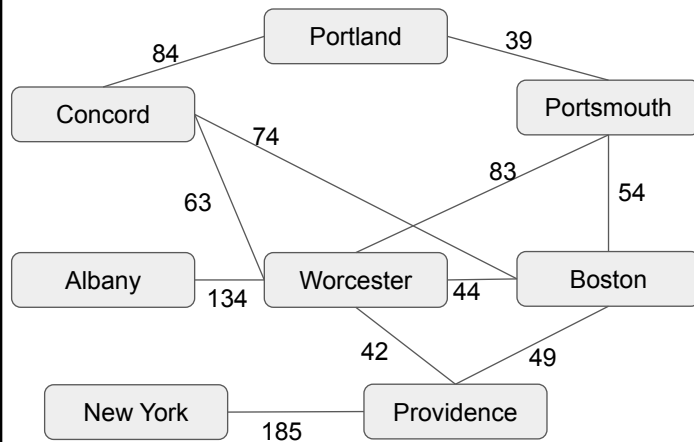
Double Hashing

0	
1	
2	
3	
4	
5	
6	

Graph Terminology and Representation

Consider the graph from lecture:

What are Worcester's neighbors in the graph?



Is the graph connected? Why or why not?

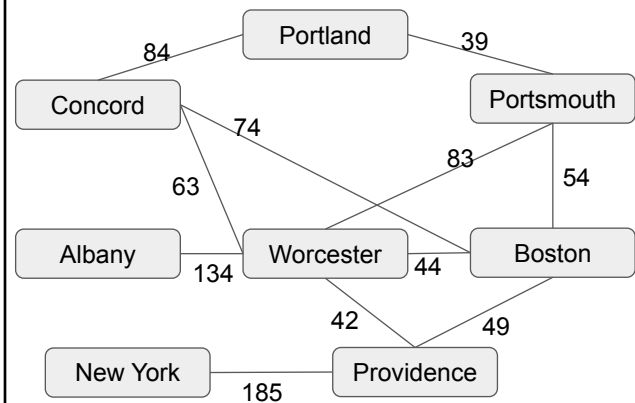
Is it complete? Why or why not?

Is it acyclic? If not, give an example cycle.

Graph Terminology and Representation

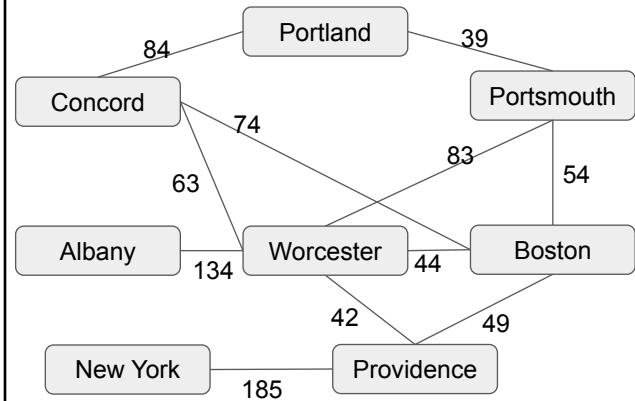
If we used an adjacency matrix to represent this graph, what would it look like? Assume that the vertices are numbered alphabetically, starting from zero:

- 0. Albany
- 1. Boston
- 2. Concord
- 3. New York
- 4. Portland
- 5. Portsmouth
- 6. Providence
- 7. Worcester



0: Albany, 1: Boston, 2: Concord, 3: NY, 4: Portland, 5: Portsmouth, 6: Providence, 7: Worcester

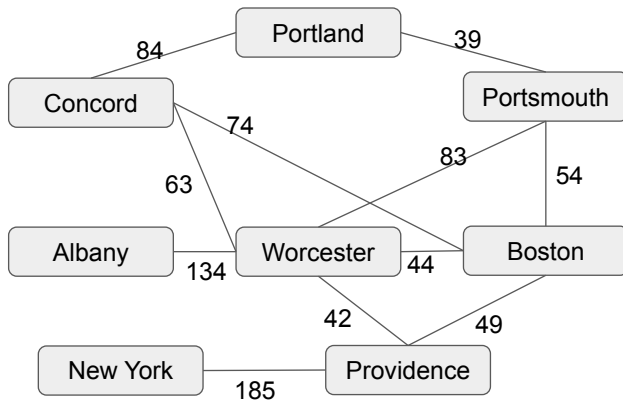
Graph Terminology and Representation



	0	1	2	3	4	5	6	7
0								
1								
2								
3								
4								
5								
6								
7								

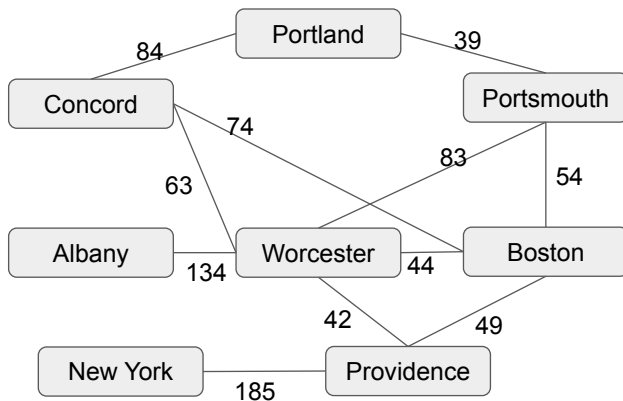
Graph Traversals

In what order would the cities be visited if we performed a **depth-first traversal** from Boston? Draw the resulting spanning tree.



Graph Traversals

In what order would the cities be visited if we performed a **breadth-first traversal** from Boston? Draw the resulting spanning tree.



End of section.

Questions?