

Questions

2. True

3. directed graph are single directional. undirected graph are bidirectional.

4. We make all arcs bi directional.

5. a) path: a sequence of edges which allows you to move from one node to another

b) cycle: a path which begins and ends on the same node

c) simple path: a path which contains no duplicated nodes

d) simple cycle: a cycle which contains no duplicated nodes, except same node at the beginning and end

6. Neighbors are the nodes directly linked. Degree is the number of neighbors at a node

7. Strongly connected graphs connects every node. That is, each node can be accessed from another node. In a weakly connected graph, each node cannot be accessed from another node.

10. The first set contains all nodes from CS1 through CS8. The second set contains all of the edges of those nodes.

12.

CS1	CS2	CS3	CS4	CS5	CS6	CS7	CS8	
	1							CS1

		1	1	1				CS2
						1	1	CS3
					1			CS4
					1	1	1	CS5
								CS6
								CS7
								CS8

13. Sparse is where the maximum degree of any node in the graph is small in comparison to the number of nodes in the graph. On the other hand, those where the maximum degree is large in comparison to the number of nodes in the graph is dense.

15. Breadth First Search and Depth First Search

16.

Atlanta -> Chicago (599)

Atlanta -> Dallas (725)

Atlanta -> New York (756)

Boston -> New York (191)

Boston -> Seattle (2489)

Chicago -> Denver (907)

Dallas -> Denver (650)

Dallas -> LosAngeles (1240)

Denver -> San Francisco (954)

Portland -> Seattle (130)

Portland -> San Francisco (550)