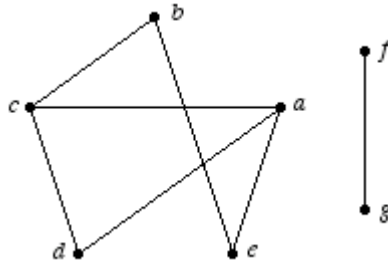


1. You are given the following graph (assume all edges have weight 1):

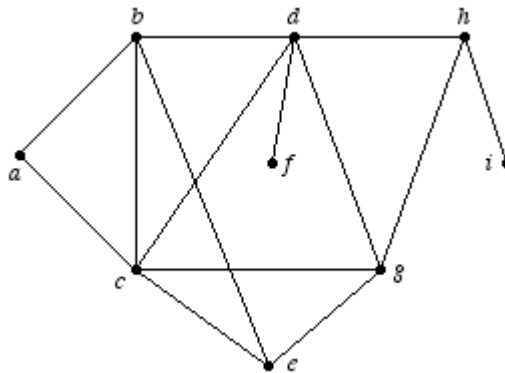


Find:

- (a) $d(c, b)$
- (b) $d(b, c)$
- (c) $d(c, c)$
- (d) $d(b, a)$
- (e) $d(c, a)$
- (f) $d(c, b) + d(b, a)$

Food for thought: what is $d(b, g)$?

2. You are given the following graph (assume all edges have weight 1):



By trial and error, find

- (a) the distances from vertex c to all other vertices (i.e., the third row in the distance matrix).
- (b) the distances from all other vertices to vertex e (i.e., the fifth column in the distance matrix).

3. Using the graph pictured below:

- (a) construct the adjacency matrix $A(G)$ for this graph.
- (b) how many paths of length 4 are there from vertex a to vertex a ?
- (c) how many paths of length 2 or length 3 are there from vertex a to vertex c ?

