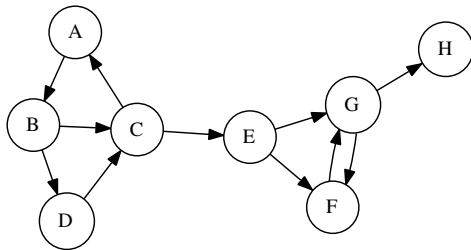**Today:** Graphs and paths. §§ 14.{0,1,2,3}.
Next class (after Thanksgiving break): Shortest-paths. §§ 14.{4,5}. *(Differs from syllabus schedule.)*
Reminders: Portfolio work; newsgroup; homework.

1. Write your group members' names below. Underline your name.

2. Consider the following directed graph (digraph):

   (a) The graph's *order* (number of vertices) is _____ .

   (b) The graph's *size* (number of edges) is _____ .

   (c) The number of *strongly connected components* is _____ .

   (d) The number of *connected components* (undirected edges) is _____ .

   (e) The number of *directed simple cycles* is _____ .

   (f) The number of *undirected simple cycles* is _____ .

   (g) The length of the *longest path* is _____ .

   (h) The *in-degree* and *out-degree* of the vertex E are _____ and _____ .

   (i) The number of *distinct simple paths* from B to G is _____ .

   (j) The number of *edge-disjoint paths* from B to G is _____ .

   (k) The number of *edge-disjoint paths* from E to F is _____ .

   (l) The vertices *adjacent to* B (its *out-neighbors*) are _____ .

   (m) The vertices *adjacent from* B (its *in-neighbors*) are _____ .

3. Depict an adjacency-list representation of the graph of Question 2.

4. Depict the action of the unweighted single-source shortest-path algorithm on the graph of Question 2 with source vertex B. Follow the conventions suggested by Figure 14.21 (p. 544) in the textbook.