Discussion 5

1. Describe a graph model that represents whether each person at a party knows the name of each other person at the party. Should the edges be directed or undirected? Should multiple edges be allowed? Should loops be allowed?

(cf. Rosen 10.2 Exercise 25)

2. Give the adjacency matrix representation and the adjacency list representation for the following graph.

(cf. Rosen 10.3 Exercise 4)
3. Consider the graph

Does it have a Hamiltonian path? Does it have a Hamiltonian circuit? Does it have an Eulerian tour? Does it have an Eulerian circuit?

4. Use Fleury’s algorithm to find an Eulerian tour of the graph above. Suppose that whenever the algorithm allows you a choice for which edge to take, you always take the edge whose label comes first alphabetically. For example, if you were in a position where you could take edge $b$, edge $c$, or edge $h$, you would take edge $b$. Write down the Eulerian tour you find by listing the edges of your tour in order.