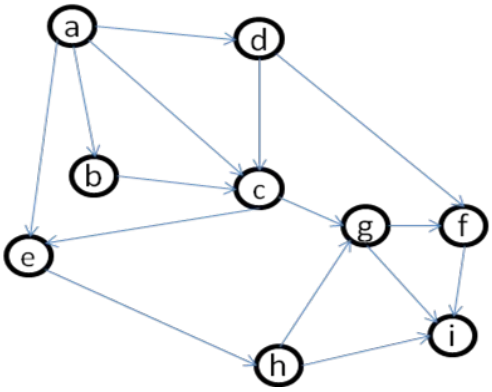
1. Using the following graph, execution the following algorithms. When evaluating edges, consider them in alphabetical order:

    a. Topological sort: show work and the resulting order

    b. Breadth-first search: start at ‘a’, and write the order visited

    c. Depth-first search: start at ‘a’, and write the order visited



2.

    a. In the previous graph, why would Topological sort fail if an edge from ‘h’ to ‘d’ were added?

3. Given a directed graph, design an algorithm to find out whether there is a route between two nodes. Code it up!

4. Given a binary search tree, design an algorithm which creates a linked list of all the nodes at each depth (eg, if you have a tree with depth D, you’ll have D linked lists). Code it up!