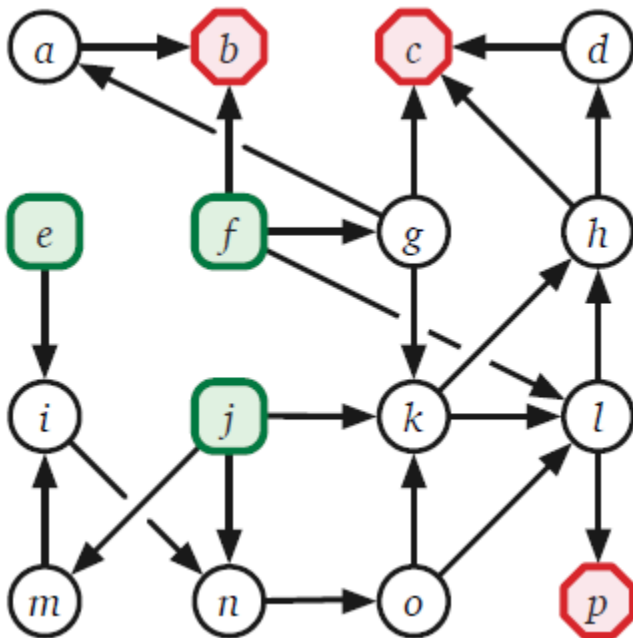


## CS 5343. Algorithm analysis and data structures

### Assignment 11: DFS

Due: 11:59 PM, Sunday April 21 (in elearning)

1. Run DFS algorithm (manually) on the following graph. Show the stack-time diagram, pre-order, and post-order lists. Follow lexicographic order when iterating over edges incident to a node. Is the graph a DAG? If so, prove it by showing a topological ordering of the nodes. (A hand-written solution would suffice.)



Practice Problem (no need to submit)

2. Write a BFS based algorithm to output an odd-length cycle of a graph.
3. Write an algorithm to find the diameter of a tree using BFS.