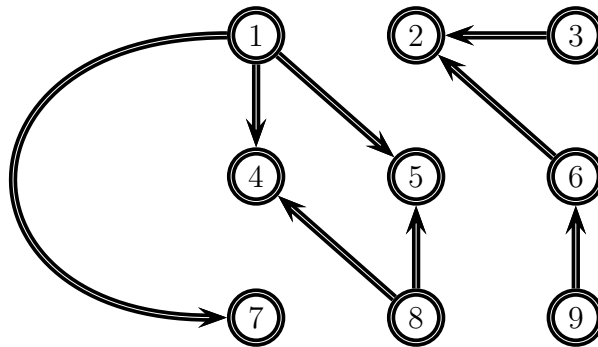


Sample Questions for CS 401 Midterm I

Problem Consider the graph below:

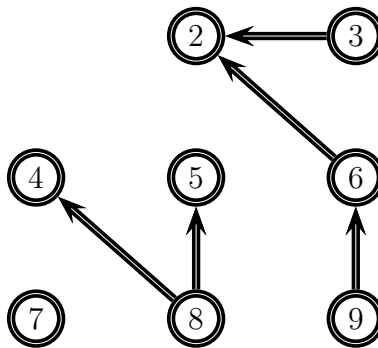


Show all intermediate steps of the algorithm to find a valid topological ordering of the above graph (the algorithm was discussed in class). For each step, provide the following information:

- The node with no edges directed to it (no incoming edges) that is selected for removal.
- The remaining graph after this node deleted.

For example, for the first step:

- The node selected for removal is node 1.
- After removal, the remaining graph looks as follows:



Problem

Is the following directed graph strongly connected? Justify your answer.

