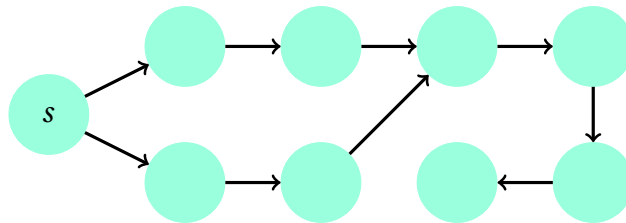


Week 5 Preparation

Instructions to the students: The preparation problems are not assessed, but we strongly recommend that you try to solve them before your applied class this week. These preparation problems test your basic knowledge of the contents taught in the seminar of the previous week. The problems in the applied class assume that you have this basic knowledge and will build on top of it. You might find it helpful to try these problems before doing the quiz that is due this week.

Problems

Problem 1. Label the vertices of the following graph in the order that they might be visited by a depth-first search, and by a breadth-first search, from the source s .



Problem 2. Write pseudocode for an algorithm that given a directed graph and a source vertex, returns a list of all of the vertices reachable in the graph from that source vertex. Your algorithm should run in $O(V + E)$ time.