Problem 1: Topsort

Explain the topsort algorithm at a high level. How is it used? What does it do? What are its limitations? Then, come up with your own example (not courses/prerequisites!) where the topsort algorithm could be applied, and give examples of at least 5 nodes (i.e. classes) and a proper sorting.

Problem 2: PageRank

Consider the following graph.

Simulate the PageRank algorithm for two iterations on it. Make sure to handle any sinks in the graph. You can assume that $d = 1$ (all PageRank only flows to neighbors during a given iteration). Don’t worry about combining the fractions for the last iteration if they get a bit messy.