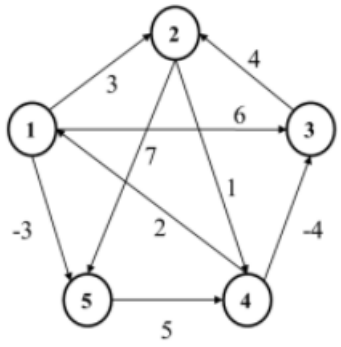
Chapter 25 Homework
Deadline: 2021/12/24 10:10 a.m.

1. In the Johnson's algorithm, instead of adding one extra vertex s, suppose an arbitrary vertex in G is used as s.

a. Give an example where such alteration leads to an incorrect result.
b. Show that if the graph is strongly connected, then the results of this version of Johnson's are correct.

2. In the following Figure, please find the all-to-all shortest path by using the Floyd-Warshall algorithm. You don't need to show the pseudo-code, but you need to show the matrices D(0), D(1), D(2), D(3), Π(0), Π(1), Π(2), and Π(3).



3. Given an $O(VE)$-time algorithm for computing the transitive closure of a directed graph $G = (V, E)$.