Exercise Set 24

1. A table with numbers and letters

Description automatically generated

2.

(a) Given their are no negative edge lengths, there can be no negative cycles. Therefore, this reduces to the all pair shortest path problem which Floyd-Warshall solves in O(n^3) time.

(b) This problem can be solved in O(m + n) time where m is the number of vertices and n the edges by topologically sorting the graph and then computing the longest path bottom up.