CIS 315, Intermediate Algorithms
Spring 2021

Assignment 3 - Question 4

due: 11:59pm, April 26, 2021
[5 points]

exercise 24.1-3 from CLRS

Given a weighted, directed graph $G = (V, E)$ with no negative-weight cycles, let $m$ be the maximum over all vertices $v \in V$ of the minimum number of edges in a shortest path from the source $s$ to $v$. (Here, the shortest path is by weight, not the number of edges.) Suggest a simple change to the Bellman-Ford algorithm that allows it to terminate in $m + 1$ passes, even if $m$ is not known in advance.