

CS 2336.004 Spring 2017

Assignment 4 – Graphs

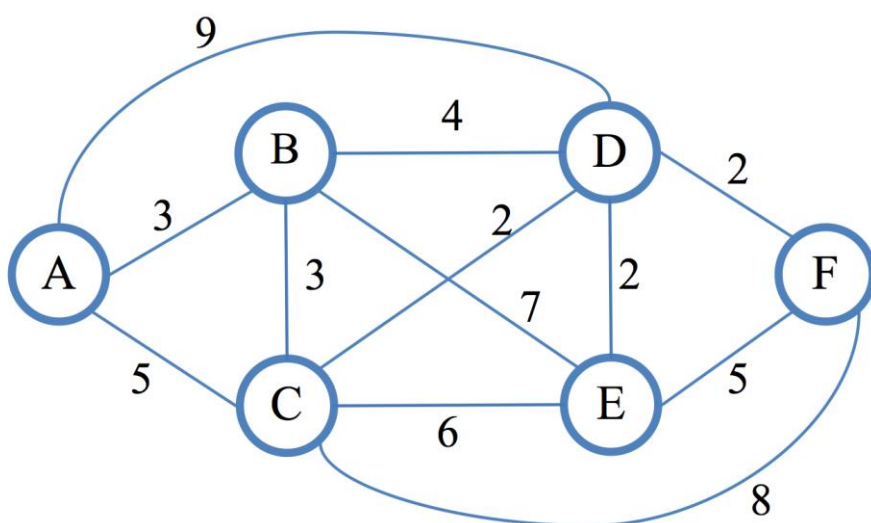
April 12th, 2017

Due Date: April 30th, 2017 – 11:59pm

Please include comments in all of your code. Describe what your function does, and describe anything that is tricky or unclear.

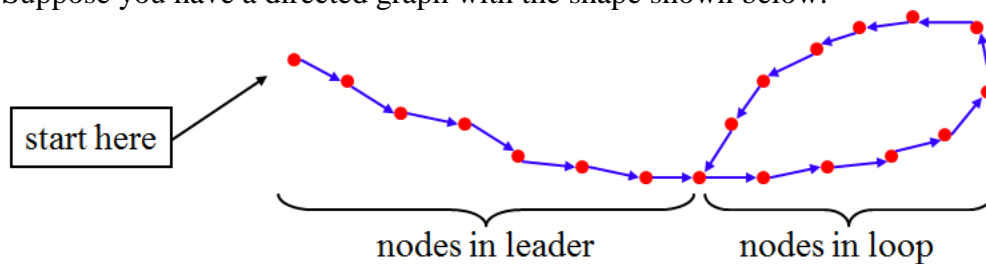
Problem #1: (60 points)

Please implement the shortest path algorithm for weighted graph. Also, please use the algorithm to find the shortest path from vertex A to vertex F for the graph shown below.



Problem #2: (40 points)

Suppose you have a directed graph with the shape shown below:



- You don't know how many nodes are in the leader
- You don't know how many nodes are in the loop
- You don't know how many nodes in total
- You are not allowed to mark (flag) any node

Please find an algorithm (method) to decide when you **must already be in the loop**.