

Possible Questions for Quiz 2

CS 428: Introduction to Graph Algorithms

Spring 2019

- You are given an undirected graph G . Use a partition refinement to determine all twins in G .
- You are given an undirected graph G . Find an Eulerian cycle/path in G .
- You are given a directed acyclic graph G . Find a topological order of the vertices in G .
- You are given a directed weighted graph G and two vertices s and t . The edge weights represent the capacities of the corresponding edges. Find a maximum s,t -flow.
- You are given an undirected graph G and some start vertex s . Make a layering partition of G starting in s .
- You are given a directed weighted graph G with potentially negative edge weights. Update the edge weights as done in JOHNSON's algorithm such that each edge weight is non-negative.
- You are given a directed weighted graph G with potentially negative edge weights and a distance matrix M_k . M_k contains the distances $d_{ij}^{(k)}$ computed by the Floyd-Warshall algorithm after k iterations. Compute M_{k+1} , i. e., make one iteration of the algorithm and update the matrix as done by the algorithm.