

CS525DA
HW#7

DUE: Friday, December 12

1. (2 points) Do **Exercise 26.1-6** of page 650 of CLRS, where the properties are the **Capacity Constraint, Skew Symmetry** and **Flow Conservation**.

2. (6 points) Given a directed graph $G=(V,E)$, a positive integer k and a pair of vertices $x,y \in V$, we want to decide if there exist k edge disjoint paths from x to y . Show how to solve this problem in polynomial time.

3. (6 points) Do **Exercise 26.2-9** of page 664 of CLRS. In the statement of the problem, replace “...at most $|V|$ flow networks...” with “...at most $|V|^2$ flow networks...”.

4. (5 points) Do **Exercise 34.2-3** of page 983 of CLRS.