
Submissions: This assignment is due on the 21st of October, 2021. Please note:

1. Each student must submit his or her own assignment.

2. Solutions must be hand-written or typed on a computer and printed onto paper, and then handed to me during class.

3. You must write your name and UUID clearly on your submitted assignment.

Academic Integrity: You are encouraged to work in groups, but everyone must write out their own solutions. Absolutely no word to word copying is allowed. If you have worked with other students on the assignment or referred to external sources, please mention all names and sources on your assignment.

Partial solutions: Document your efforts at solving a problem even if you cannot solve it. Write why your approach failed.

Problem 1 [25 pts]: Problem 4.18 from DPV.

Problem 2 [25 pts]: Problem 4.19 from DPV.

Problem 3 [25 pts]: Problem 4.21 from DPV.

Problem 4 [25 pts]: Read the final paragraph of the textbook on Page 129. It is describing the fact that if no dist values are reduced in the final $|V|$th round then no negative cycles are reachable from $s$. Prove this fact rigorously. Please try to be succinct in the proof. It is better to spend time formulating what exactly you want to prove etc.