

## CS 6515: Homework 2

Due on Sunday, September 10, 11:59pm via Gradescope.  
Late submission with 10% penalty until Monday, September 11, 11:59pm.

*Professor Brito*

**Instructions.**

For the graded problems, when asked to design an algorithm you must describe it in plain English. Do not use pseudocode! Always address the runtime of your design. You should aim for the fastest (in big- $O$  notation).

**Suggested reading.**

From Algorithms by Dasgupta, Papadimitriou, and Vazirani, chapter 7.2 covers flows in networks.

## Problem 1

(Flow variations)

(a)

(b)

**Problem 2**

(Updating the max flow)

(a)

(b)