

## Problem Set 5

*Due Date: November 25, 2020*

Problems are drawn from *Network Flow Algorithms*, available at <http://www.networkflowalgs.com/book.pdf>.

All HWs should be submitted through Gradescope as a PDF.

A reminder on collaboration: Your work on problem sets and exams should be your own. You may discuss approaches to problems with other students, but as a general guideline, such discussions may not involve taking notes. You must write up solutions on your own independently, and acknowledge anyone with whom you discussed the problem. You should not try to look up solutions through published papers or the web.

1. W 5.10. The problem incorrectly states that there should be no admissible arcs entering  $S$ ; instead there should be no admissible arcs leaving  $S$ . That is, for all  $(i, j) \in \delta^+(S)$ , either  $(i, j) \notin A_f$  or  $c_p(i, j) \geq 0$ .
2. W 5.13
3. W 6.4
4. W 6.6 (The definition of a bicycle can be found on page 166 of the PDF version of the book.)