## Assignment 5

Do the following problems and exercises from the book. Note that the ordering reflects the order in which the relevant material is being covered by the course. Always *justify* your answers.

- 1. Do exercises 4.2.32, 4.3.15, 4.4.31 *Hints:* 
  - **4.4.31** If there is a negative edge (u, v) in an undirected graph, then there is a negative cycle, e.g.,  $u \to v \to u$ , and you output that fact. Otherwise, you have all weights being non-negative, and... do the rest.)
- 2. Do exercises 5.2.8
- 3. Do exercises 5.3.11, 5.3.21