

**Homework 12: Graphs part 3****Problems**

1. (20 pts) Exercise 26.1-3.
2. (20 pts) Exercise 26.1-4.
3. (20 pts) Exercise 26.2-2.
4. (20 pts) Exercise 26.2-10 (Extra Credit)
5. (30 pts) Implement Push-Relabel for finding maximum flow.  
Extra Credit: use relabel-to-front idea from Chapter 26.5 with the Discharge procedure.
6. (15 pts) Explain in a brief paragraph the following sentence from textbook page 737:  
“To make the preflow a legal flow, the algorithm then sends the excess collected in the reservoirs of overflowing vertices back to the source by continuing to relabel vertices to above the fixed height  $|V|$  of the source”.
7. (20 pts Extra Credit) Exercise 26.4.4