1. Solve the second midterm. As before – if you got the full marks for a question you may copy+paste it. Otherwise, put your solution aside and solve from scratch.

2. **Max-Flow-Min-Cut:** K&T 7.2: Given the following flow network on which an s-t flow has been computed. The capacity of each edge appears as a label on the edge, and the numbers in parentheses give the amount of flow sent on each edge. (Edges without parentheses – specifically, the four edges of capacity 3 – have no flow being sent on them.)

   ![Flow Network Diagram]

   (a) What is the value of this flow? Is this a maximum (s,t) flow in this graph?
   (b) Find a minimum s-t cut in the flow network and also say what its capacity is.

3. Exercise 1.1 (page 3 in the NP notes).
4. Exercise 1.3 (page 5 in the NP notes).
5. Exercise 1.4 (page 6)
6. Exercise 1.5 (page 6)