

CS 5200 PSET - 6

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Problems numbers are according to the 2006 version (2008 version highlighted in blue).

Problem 1 Determine the LP in the standard form corresponding to the flow network below. Convert it into the slack form and use the simplex algorithm to solve it (show the simplex tableau at each step). Determine if there is any relationship between pivoting (in the simplex algorithm) and augmenting flow (in the generic flow algorithm). [Hint: solve the circulation problem. Note that all the b_i 's are non-negative and hence the solution where we set all non basic variables to zero is a basic feasible solution, which can be taken as the initial starting point.]

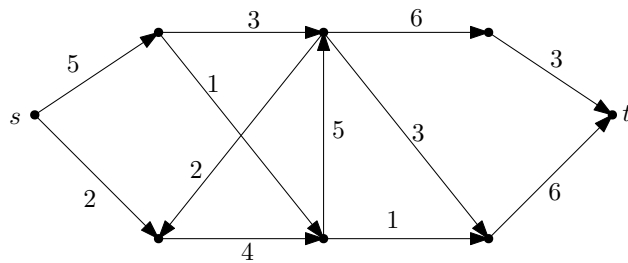


Figure 1: The flow network G

Problem 2 Exercise 7.15

Problem 3 Exercise 7.23