

15-451 MINI #4 Spring 2007

This mini is due via *email* to your TA, by midnight Tuesday, April 3rd. Please use the subject line "15-451 MINI #4" in your email.

For this mini only, feel free to attach your solutions. You can write your figures in ascii, or you can use, xfig, ipe, word etc. **But your attachments must be either in text or pdf format.** Brent will put some instructions on how to convert word to pdf here: gs3636.sp.cs.cmu.edu/pdf. Also, recall that to convert postscript to pdf you can use the command `ps2pdf`.

Include your name and andrew ID at the top of your solutions.

Problem 1

Run Ford-Fulkerson on the attached graph, step by step, indicating which augmenting path you have chosen and drawing each of the residual graphs. State the value of the maximum flow from s to t and show this flow on the graph.

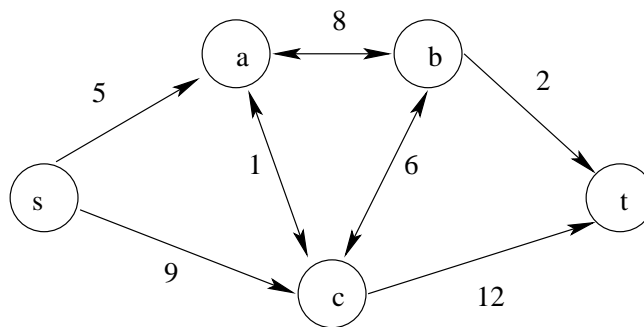


Figure 1: Network graph

Problem 2

Suppose someone presents you with a solution to a max-flow problem on some network. Give a linear time algorithm to determine whether the solution does indeed give a maximum flow.