CIS507: Design & Analysis of Algorithms
Quiz 5, Spring 2012

Duration: 20 minutes
Total weight: 5%

Student Name: –

Student ID: –

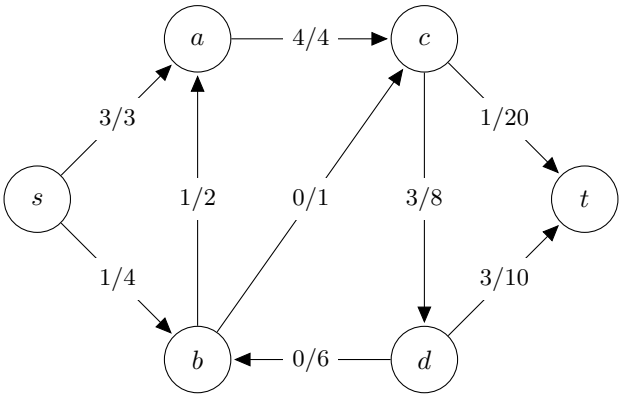
Problem	Points Obtained	Points Possible
1		2
2		3
Total		5

1 Extracting Min-Cut from Max-Flow (2 points)

Given a graph $G = (V, E)$ and a maximum flow f from s to t. Briefly describe (in one or two setences) an $\mathcal{O}(|E|)$ algorithm to find a minimum cut which separates s from t.

2 Flow (3 points)

You are given a digraph which after one iteration has the following flow with an edge labeling meaning flow/capacity.



1. Draw the residual graph.
2. What is the value of the max-flow?
3. What is the min-cut? Divide the vertices into two sets.