

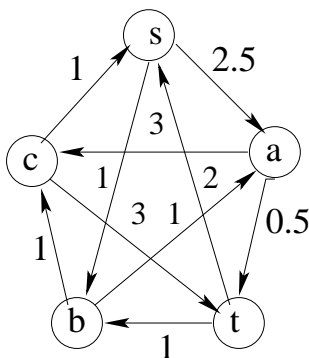
Math 412

HW11

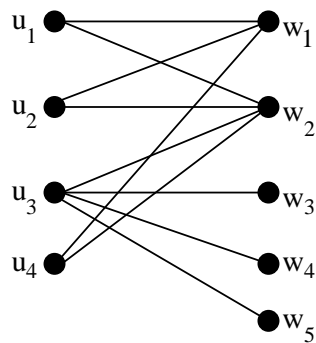
Due Wednesday, April 15, 2009

Solve five of the next six problems.

1. Let G be the network with the flow drawn below. Write the flow as a linear combination of flows along cycles, s, t -paths and t, s -paths.



2. # 4.3.2 in the book.
3. # 4.3.5 in the book.
4. # 4.3.6 in the book.
5. Let xy be an edge either in a graph or in a digraph G . Prove that in both cases, $\kappa(G - xy) \geq \kappa(G) - 1$.
6. Using maximum flows, find a maximum matching in the bipartite graph below. Prove that the matching is optimal.



Problems below review basic concepts and their ideas could be used in the tests.

WARMUP PROBLEMS: Section 4.3: # 1, 3, 4. Do not write these up!

OTHER INTERESTING PROBLEMS: Section 4.3: # 7, 8, 10, 13, 14. Do not write these up!