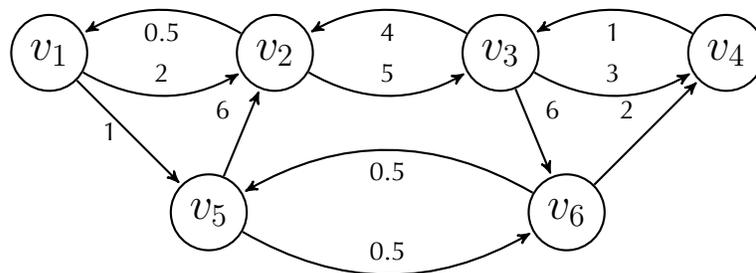

IEOR 151 – HOMEWORK 4
DUE WEDNESDAY, OCTOBER 2, 2013 IN CLASS

1. Consider the following graph representation of a kidney exchange. Find the social welfare maximizing exchange under the constraint that all cycles can have length less than or equal to $L = 3$. (5 points)



2. Match the applicants to the residency programs, and show intermediate steps of the algorithm. (5 points)

For this problem, suppose the applicants' preferences are given by:

George	Jerry	Elaine
1. City	1. City	1. City
2. General	2. General	2. General

Suppose that each residency program has only 1 open position, and that the preferences of the programs are given by

City	General
1. Elaine	1. Elaine
2. Jerry	2. Jerry

3. Extra Credit: Based on the presentation given by Prof. Sandholm, briefly explain in three to five sentences how the kidney exchange model can be modified to capture the dynamic nature of the problem. (5 points)