SI 301
Assignment 7
Due in class on Tue October 31st

Reading: Sections 10.1-10.5

1. The tables below show the valuation of 3 buyers x, y, z for 3 different houses sold by A, B, C. For each table, find the market clearing prices following the procedure presented in class. Show the price of each house and the preferred-seller graph at the end of each round of the procedure.

a.

Buyer	Valuation for A's house	Valuation for B's house	Valuation for C's house
x	2	2	1
y	1	5	3
z	2	3	0

b.

Buyer	Valuation for A's house	Valuation for B's house	Valuation for C's house
x	1	8	4
y	7	4	3
z	6	3	4

c.

Buyer	Valuation for A's house	Valuation for B's house	Valuation for C's house
x	9	3	1
y	7	5	3
z	5	4	8

2. The table below shows the valuation of 2 buyers B1 and B2 for 2 different houses sold by sellers S1 and S2, where valuations a,b,c,d are non-negative integers. Assume you are following the procedure to find market clearing prices and you find that after you set all prices to zero, the preferred seller's graph does not have a perfect matching. Now you want to determine the minimum number of price-incrementing rounds required to find market clearing prices. Express the general answer in terms of a,b,c,d using a single-line statement in Python. Explain why your statement works for any set of non-negative integers

{a,b,c,d}. [Hint: Consider using one or more of the following functions: `sum(), long(), min(), max(), abs(), float(), int()`].

Buyer	Valuation for S1's house	Valuation for B2's house
B1	a	b
B2	c	d

3. Problems 11 and 14 in section 10.7 of textbook.