Supplemental Problem Set
HONR259L

1) Preferences for 6 students over dorm rooms are given below. The first row in bold is the room that each student is randomly assigned. The students are then allowed to use the Top Trading Cycle algorithm to reallocate the rooms. Determine the final outcome.

S1	S2	S3	S4	S5	S6
r1	**r2**	**r3**	**r4**	**r5**	**r6**
r6	r1	r4	r6	r2	r2
r5	r5	r2	r5	r6	r3
r3	r3	r5	r3	r4	r5
r2	r6	r3	r2	r2	r6
r4	r2	r6	r4	r1	r4
r1	r4	r1	r1	r5	r1

2) The table below gives student preferences (S) and fraternity preferences (F).
   i) Determine the outcome if the student optimal DAA is used
   ii) Determine the outcome if the fraternity optimal DAA is used.

S1	S2	S3	S4	F1	F2	F3	F4
F3	F2	F1	F2	S1	S1	S3	S3
F2	F3	F2	F3	S2	S3	S2	S2
F1	F1	F4	F4	S3	S4	S4	S4
F4	F4	F3	F1	S4	S2	S1	S1

3) You are a bidder in a Simultaneous Multi-round Auction. There are four licenses, A,B,C,D. Each license is worth 200 activity points and the activity rule is 1 (your eligibility points in any new round is equal to the activity points you bid on in the previous round including any PWBs that you had in that round). You are currently the provisional winning bidder (PWB) on A at a bid of $1000. Your budget is $1M. Including your PWB on A, your total eligibility is 500 points. Your maximum value for a single license is $5000 and for two licenses is $8000 in total. You do not care which license(s) you acquire. For the next round, the minimum acceptable bids for the licenses are: A--$1100, B--$4000, C--$2000, D -- $5000.
   a) Provide the full list all of the licenses you are able to bid on in the next round given your situation (for example {A, D} and {A} each are examples feasible you could bid on. Describe whether you are raising your own bid or not in your list.
   b) Suppose you end up not bidding in this round and another bidders becomes the PWB on license A. What licenses can you bid on in the following round?
   c) What licenses should you not bid on given your values?
   d) Suppose the minimum acceptable bids are, instead A--$1100, B--$4000, C--$3100, D -- $5000. Now what license(s) should you bid on?