Zackery Field
ID: 23031734
CS 70, Summer 2013
Homework 2
Problem 2 [12 Points]

1. [12 Points] This question concerns stable marriages and the propose-and-reject algorithm.

   (a) [5 Points] Consider the following stable marriage instance:

Man	Women	Woman	Men
1	A B C	A	2 3 1
2	C A B	B	1 2 3
3	B C A	C	3 1 2

   List all the rogue couples in the following pairing: {(1,C),(2,A),(3,B)}

   Rogue couple: (1,B)

   (b) [7 Points] Run the propose and reject algorithm.

Man	Women	Woman	Men
1	B A C D	A	3 4 1 2
2	A C B D	B	2 3 4 1
3	C B A D	C	4 1 2 3
4	B A C D	D	1 2 3 4

Day	Woman	Proposals(Men)
1	A	[2]
	B	1, [4]
	C	[3]
	D	
2	A	[1], 2
	B	[4]
	C	[3]
	D	
3	A	[1]
	B	[4]
	C	[2],3
	D	
4	A	[1]
	B	[3], 4
	C	[2]
	D	
5	A	1, [4]
	B	[3]
	C	[2]
	D	
6	A	[4]
	B	[3]
	C	[1], 2
	D	
7	A	[4]
	B	[2], 3
	C	[1]
	D	
8	A	[3], 4
	B	[2]
	C	[1]
	D	
9	A	[3]
	B	[2]
	C	1, [4]
	D	
10	A	[3]
	B	[2]
	C	[4]
	D	[1]

Final Pairing: {(A,3),(B,2),(C,4),(D,1)}