



INTRODUCTION TO ABSTRACT MATHEMATICS  
FALL 2013

ASSIGNMENT 1.1  
DUE SEPTEMBER 6

**Exercise 1.** Consider Example 2 in the paper by Gale and Shapley that we discussed in class today.

- a. Explain why there are a total of 24 possible sets of marriages.
- b. Choose any three sets of marriages (other than the one indicated in the example), and explain why they are unstable.

**Exercise 2.** Either by applying the algorithm given in the proof of Theorem 1 of the Gale and Shapley paper, or by some other means, find a stable set of marriages for the ranking matrix on page 389. If you do not use the algorithm, be sure to explain why your set is stable.