

**22C : 196 : 003 Computing Equilibria in Markets and Games**  
**Spring 2005**  
**Homework 2**  
**Due on October 11**

1. Improve the bound of 3 for the price of anarchy that we showed for the load balancing game. You can do this either by trying to improve our proof, or by interpreting the proof of Theorem 3.2 of the paper by Suri, Toth, and Zhou. Any bound better than 3, even 2.99, will suffice.
2. In the selfish routing scenario, we argued that the price of anarchy is bounded by 2 for linear latency functions. Argue that if the latency functions are only required to be nondecreasing and continuous, then the price of anarchy can be unbounded. You may look up the paper of Roughgarden and Tardos for this.
3. Exercise 261.1 on page 261 of Osborne-Rubinstein.
4. Exercise 261.3 on page 261.
5. Exercise 263.2 on page 263.