CSE 473: Artificial Intelligence
Assignment #4
Wednesday November 26, 2008
Due: Friday, December 5

Reading Assignment: Read Chapters 17 (1&2), 18 (1-4), 20 (1-3) carefully.

Problems:

1. **MDPs**: Look at the MDP defined in exercise 17.4. Show the values of the three states for the first two iterations of the value iteration algorithm given in Figure 17.4 on page 621. Assume no discount (that is, $\gamma = 1$).

2. **Decision Trees**: Check out the training examples for the restaurant domain given in Figure 18.3. Compute the information for choosing Price or Hungry as the root of a decision tree for this data set (do this for both attributes). Now suppose the decision tree algorithm has already chosen Patrons to be the root node. Compute the information gain for Price and Hungry at the next level in the tree along the branch labeled Full (it might be helpful to look at Figure 18.4 (b) which depicts the two level tree with Hungry at the second level).

Have a great Thanksgiving!