Knapsack (last time through)

Lecture 30
CS 312

Objectives

- Go over the homework
- Use BB for a maximization (rather than minimization) problem.
- Talk about TSP using Branch and Bound

Review

- How did the homework go?

BandB Knapsack

- Same scenario: objects with weights and values and a capacity
- Maximize the profit of what goes in the knapsack
- Bounds for maximization?

BandB for maximization

Approximate Best Load Value

- Make sure approximation is greater than or equal to actual load.
- Assume objects are in order of decreasing value/weight ratios.
Early Cycles in TSP

• Assume use the “include/exclude edge from a to b” method.
• Why is this a problem?
• Prevent or detect?

Homework

• Do a Knapsack B and B problem.
  – same method for drawing the tree, managing the queue etc.
  – Different approximation function.
• The equation for finding the bound is in the book.