

**6.871 SPRING 2005**  
**Reading Summary: Lecture 17**  
*Due Thursday, April 7, 9:35am*

**Lecture 17: Reasoning with Constraints**

Please answer the following question in at most one page.

Papers:

Paltrinieri M, On the design of constraint satisfaction problems

Fox, M, ISIS: A retrospective

Kumar V, Algorithms for constraint-satisfaction problems: a survey

1. Answer these questions/explain each of the following terms as they are used in the Kumar paper. *When explaining a term., do not simply give us back the text in that paper.* Explain the concept in your own words so that we know you understand it.
  - a. Constraint satisfaction problem
  - b. How would generate and test be used to solve a CSP problem?
  - c. How is backtracking used to solve a CSP problem?
  - d. Thrashing
  - e. Arc consistency
  - f. Forward checking
  - g. Dependency-directed backtracking