

MIDTERM REVIEW

CMP 310

- ◇ Intelligent Agents
- ◇ Definitions of AI
- ◇ Rationality
- ◇ PEAS descriptions
- ◇ Environment types
- ◇ Agent types

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CMP 310 4

Midterm

Tuesday October 14

- in class 12:30-1:30

Approximately 4 questions (with subparts)

One additional multiple choice question

- can be completed anytime 7:00am-7:00pm

- **very important**

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Format

Approximately 4 questions (with subparts)

Two broad types:

- Apply algorithm A to problem P (denoted by A)
- Discuss {tradeoffs, assumptions, relative merits} of {algorithms, problem formulations, models} (short answer)

Allowed 1 page (8.5" x 11" each) cheat sheet

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Search

- ◇ Understand different problem types and strategies for solving each of them
- ◇ Naive search algorithms, tradeoffs and advantages/disadvantages of each A
- ◇ Heuristic search algorithms, why and how they work, advantages/disadvantages A
- ◇ Iterative improvement algorithms (hill climbing)

Constraint Satisfaction Problems

- ◇ Relationship to search problems
- ◇ Heuristics for solving
- ◇ Apply heuristics to problems A
- ◇ Algorithm for arc consistency A

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Game Playing

- ◇ Minimax search **A**
- ◇ α - β pruning **A**
- ◇ Apply these algorithms to game trees

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Propositional Logic

- ◇ Models and entailment
- ◇ Inference algorithms
 - Enumeration
 - Forward/backward chaining **A**
 - Resolution proof
- ◇ Horn clauses
- ◇ CNF

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