Midterm Review

CMPT 310

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

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

Intelligent Agents

- ♢ Definitions of AI
- ♢ Rationality
- ♢ PEAS descriptions
- ♢ Environment types
- ♢ Agent types

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 improvment algorithms (hill climbing)

Constraint Satisfaction Problems

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

Game Playing

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

Propositional Logic

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