MIDTERM REVIEW

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CMSC 671

GROUP SURVEY

https://catme.org

ABOUT THE PROJECT?

I'll give more details at the end of the week so you can focus on the midterm

MID-SEMESTER SURVEY

- Anonymous – DO NOT put your name on this
- Feedback for me and Aydin so we can make adjustments for the second half of the semester

Candy

Happy Halloween!

WHAT'S THE FORMAT OF THE EXAM?

- Types of questions:
  - Multiple choice & yes/no
  - Short answer
  - In-class activity type questions
  - Matching
- No code
- 10 questions, 50 points
- Learning objectives (loosely):

Midterm

The midterm will show us how well you have learned about the different methods and if you can reason about when to apply them. It will test your knowledge about Modules 1-3 to see if there are any weaknesses in your knowledge before you start on your final project.

WHAT'S ON THE EXAM?

See the list on Blackboard →

Study tips:
- Look over these topics in the slides
- Redo any in-class assignments you struggled with or forget

- **Define** an agent (environment, performance measure, actuators, sensors) or a Markov Decision Process (MDP) ...
  (states, actions, transition model, reward)
- **Describe** an environment (observability, determinism, static, discrete, episodic, number of agents)
- **Describe, perform, or know when to use** DFS, BFS, UCS, Iterative Deepening DFS, Best-First Search, A*, minimax (with or without alpha-beta pruning)
- **Describe or know when to use** local search, propositional logic, first-order logic, planning, reinforcement learning
- **Identify** when an A* heuristic is admissible
- **Prove** an inference in propositional logic (given a set of inference rules)
- **Translate** a first-order logic or propositional logic sentence into English or translate an English sentence into first-order logic/propositional logic
- **Define the following terms:**
  - state
  - utility
  - actions
  - environment
  - admissible heuristic
  - knowledge base
  - percept
  - possible world
  - sentence
  - policy
  - reward
  - Q-value
  - exploration
  - exploitation
  - learning rate
  - stochastic
  - deterministic
  - discrete
  - continuous
  - fully observable
  - partially observable
  - episodic
  - sequential
  - static
  - dynamic

THE DAY OF THE EXAM

- It will be in this classroom during our normal class period.
- **Closed book/notes**
- Take your time
- Ask for clarifications

- If you're taking the exam on your laptop:
    - Make sure your computer is completely charged
    - Install Respondus ahead of time. If you have to install it during the class period, that is taking away from your time
    - https://wiki.umbc.edu/pages/viewpage.action?pageId=129074606
- If you're taking the exam on paper:
    - Bring enough pencils & erasers so that you have backups. I will not be bringing pencils.
    - Do not use pen. (It's hard to read if you scribble out)

REVIEW

- Identify which of the following topics you don't remember or have trouble with:
  1. Agents
  2. Uninformed Search
  3. Informed Search
  4. Local Search
  5. Multi-Agent Search
  6. Propositional Logic
  7. First-Order Logic
  8. ~~Planning~~
  9. MDPs
  10. RL

- Then look in your notes and find a term, idea, or activity that you struggled with that nobody else has written down yet. Write that on the board.
- People at stations 1-5 will stay and people at 6-10 will find a topic that they feel they might be *fairly* confident at explaining. Bring me over if you're having trouble.
- Switch. People from 6-10 will go back to those stations and people from 1-5 will explain