

15381 Review for Midterm

10/12/09

What you can/should bring

- Can bring 1 page (double sided) of anything to the test. Do it neatly, as you can bring 2 pages to the final.
- Bring calculator.

What is on the Midterm?

7 problems, 80 points.

5 x 10

2 x 15

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- Uninformed (10)
- A* (15)
- Local search (10)
- Minimax (10)
- CSP (10)
- Planning (10)
- Bayes nets (15)

What you should know

- Uninformed search
 - DFS, BFS, ID, bidirectional
- Informed search
 - UCS, greedy, A* $f=g+h$ (admissible)
- Local search
 - hill-climbing (look at neighbors, go to better, none better you're done!), SA, GA
 - Problems with hill climbing (local max, plateaus)
- Minimax
 - Know pruning, games of chance
- CSP
 - Forward checking
 - Constraint propagation
 - Choosing values/variables
 - Min Remaining Values (MRV), Most Constrained Variable (MCV), MinConflicts Variable
 - N-Queens, difference between adding queens to board and full assignment state search
 - Variables (V), Values aka Domain (D), and Constrains ©

- Planning
 - Def/classical/symbolic
 - Preconditions, adds, deletes
- Motion planning
 - PRM, RRT, ERRT
- Bayes nets
 - don't worry about sampling, just focus on Bdayes net
 - Must be able to compute the probability of ANYTHING in the Bayes net.