

CSE 473: Artificial Intelligence  
Assignment #1  
April 1, 2005  
Due: Friday, April 8

**Reading Assignment:** Read Chapters 2 - 4 carefully.

**Problems:**

1. Chapter 2, exercises 2.5 b and c. Two lists of things to consider are sufficient.
2. Chapter 2, exercises 2.6 for b and c. Justify your agent design briefly.
3. Chapter 3, exercise 3.8.
4. Consider iterative deepening and depth-first search. For which branching factor  $b$  is the ratio between the time complexity of the two methods maximal? You don't have to justify why your answer gives the maximal ratio, but I'd like you to derive the difference in complexity using  $O()$  notation (hint: it depends on the depth  $d$  of the solution).
5. Chapter 3, exercise 3.17 a and d.  
**Extra credit:** b