CSCE 420, Spring 2015   <u>Home Work 2</u>   Dr. Ronnie Ward

Due Friday, February 13th, 7:00pm

1. (3 points) Your goal is to use A* search to beat the Pandmat code in performance. The path lengths should match those found by Iterative deepening search, but use of resources should be different. Compare the number of expanded nodes of A* and IDS. Report an average number for every 50 problems.

Also, submit answers to the following questions.

2. (1 points) Work textbook problem 4.1

3. (1/2 point) What is the number of <u>non-attacking</u> pairs of queens in the 4-queen state:

4. (1/2 point) In the above state, move the queen in the top-left position to the bottom-left position. What is the number of <u>attacking</u> pairs of queens?

5. (1 point) If you applied the Hill-Climbing algorithm to the state in #3, draw the state it would return.

6. (1 point) Briefly describe the search environment best suited for Online Search, Belief State Search and AND-OR Search.