CS311 - Written Problem 2
To be done by: Thursday, March 7

1. Designing heuristics

   A knight moves on a chessboard two squares up, down, left, or right followed by one square perpendicular (i.e., the move is L-shaped.) Suppose the knight is on an unbounded board at square $(0, 0)$ and we wish to move it to square (x, y) in the smallest number of moves. For example, to move from $(0, 0)$ to $(1, 1)$ requires two moves.

   (a) Explain how to decide whether the required number of moves is even or odd without constructing a solution.

   (b) Design an *admissible* heuristic function for estimating the minimum number of moves required; it should be as accurate as you can make it. Prove rigorously that your heuristic is admissible.

2. Exercise 5.9

3. Exercise 5.10 (a-c)