Reading Assignment: Read Chapters 6 and 7 carefully.

Problems:

1. Suppose that we run a greedy search algorithm with the following two heuristics:
   
   \( h(n) = -g(n) \)
   
   \( h(n) = g(n) \)

   What sort of search will the greedy search emulate?

2. Show the individual steps performed by \( A^* \) search to solve the following 8-puzzle. Use the two heuristic functions \( h_1 \) (misplaced tiles) and \( h_2 \) (Manhattan distance).
   
   Start State:

   \[
   \begin{array}{ccc}
   1 & 6 & 2 \\
   8 & 3 & \\
   7 & 5 & 4 \\
   \end{array}
   \]

   Goal State:

   \[
   \begin{array}{ccc}
   1 & 2 & 3 \\
   8 & 4 & \\
   7 & 6 & 5 \\
   \end{array}
   \]

3. Chapter 4, exercise 4.7.

4. Chapter 4, exercise 4.11.

5. Chapter 5, exercise 5.4.