Assignment Chapter 4

1. Exercise 4-7.
   (a) As presented in the text, best-first search uses the closed list to implement loop detection. What would be the effect of eliminating this test and relying on the depth test, g(n), to detect loops? Compare the efficiencies of the two approaches.
   (b) `best_first_search` does not test a state to see whether it is a goal until it is removed from the `open` list. This test could be performed when new states are generated. What effect would doing so have on the efficiency of the algorithm? Admissibility?
2. Exercise 4-10. Prove that the set of states expanded by algorithm A* is a subset of those examined by breadth-first search.