

Assignment Chapter 3

1. Exercise 3-5. “Hand run” the backtrack algorithm on the graph in Figure 3.29. Begin from state A. Keep track of successive values of CS, SL, NSL, DE.
2. Exercise 3-7. Determine whether goal- or data-driven search would be preferable for solving each of the following problems. Justify your answer.
 - (a) Diagnosing mechanical problems in an automobile.
 - (b) You have met a person who claims to be your distant cousin, with a common ancestor named “John Doe”. Verify the claim.
 - (c) Another person claims to be your distant cousin. He does not know the ancestor’s name, but knows that it was more than eight generations back. You would like to find this ancestor or determine she does not exist.
 - (d) A theorem prover for plane geometry.
 - (e) A program for examining sonar readings and interpreting them, e.g., telling a large submarine from a small submarine from a whale from a school of fish.
 - (f) An expert system that will help a human classify plants by species, genus, etc.
3. Exercise 3-10. Trace the good-dog problem of Example 3.3.4 in a data-driven fashion.