Constraint propagation and backtracking-based search

Exercises

1) write a non-recursive version of chronological backtracking algorithm (note: use a while loop)

2) write a formal code for (improved) limited discrepancy search

3) prove that conflict-directed backjumping never explores more nodes than graph-directed backjumping

4) analyze the worst-case time complexity of AC-3 and AC-4 and show that AC-4 has optimal worst-case time complexity

5) propose efficient REVISE procedure(s) for a constraint A<B

6) extend the notion of arc consistency into n-ary constraints, so called generalized arc-consistency (GAC), and propose an algorithm for making a CSP GAC

7) show that PC-3 algorithm by Mohr, Henderson (1996) is not sound, i.e. it can remove a consistent value

8) what is the best variable to be assigned first and why?