

1. (*2-SAT*) Recall, we said in the lecture that 2-SAT is easy. Design an efficient algorithm for solving the 2-SAT problem. Why doesn't ideas for solving the 2-SAT problem extend to the 3-SAT problem.
2. (*Search 3-SAT*) Suppose you are given an algorithm A for solving the 3-SAT problem. Can you use this algorithm to design another algorithm that finds a satisfying assignment if there exists one?
3. Consider the following problem:
CLIQUE-AND-IS: Given a graph G and an integer k , determine if there is a clique of size at least k in G and an independent set of size at least k in G .
4. Problem 2 from the Tardos and Kleinberg book.
5. Problem 6 from the Tardos and Kleinberg book.