

Theory of Computation

Homework 3

Due: 2012/11/20

Problem 1. Define $D\text{-SAT} = \{ \theta \mid \theta \text{ is a Boolean expression with at least two satisfying assignments} \}$. Show that D-SAT is NP-complete. (Do not forget to show it is in NP.)

Problem 2. We define “SE-Hamiltonian path” as a path that visits all the nodes once in an undirected graph which starts from a node n_s and ends at a node n_e in the graph, where both n_s and n_e are inputs. Show that SE-Hamiltonian path is NP-complete. (Hint: Hamiltonian cycle is NP-complete. Do not forget to show it is in NP.)