Computational Complexity

2018/2019

Homework 3

Problem 3.1. (0.25 pt) Prove that if $coNP \subseteq RP$, then ZPP = NP.

Problem 3.2. (0.25 pt) In the ACYCLICSUBGRAPH problem we are given a directed graph G and a number k; the question is to decide whether there exists an induced subgraph of G that is acyclic and has exactly k vertices (recall that an induced subgraph is formed from a subset of the vertices of G and all of the edges connecting pairs of vertices in that subset). Prove that the ACYCLICSUBGRAPH problem is NP-complete.