NP-COMPLETENESS

1. Consider the following language:

\[ \text{NON-TAUTOLOGY} = \{ F \mid F \text{ is a boolean formula with literals, connectives from } \{ \land, \lor, \neg, \rightarrow, \leftrightarrow \}, \]
\[ \text{and parentheses} \]
\[ \text{s.t. there is a truth assignment of } F \text{ that makes it false.} \} \]

Prove that NON-TAUTOLOGY is NP-Complete.

2. Subgraph-Isomorphism. [From [1], #34.5-1, pg 1017] Consider the following language:

\[ \text{SUBGRAPH-ISOMORPHISM} = \{ G_1, G_2 \mid \text{there exists a subgraph } G_2' \text{ of } G_2 \text{ s.t.} \]
\[ G_1 \text{ is isomorphic to } G_2' \} \]

Prove that SUBGRAPH-ISOMORPHISM is NP-Complete.

REFERENCES


HONOR CODE AFFIRMATION

I affirm that I have carried out my academic endeavors with full academic honesty.

Signature

Printed name

5 November 2019