CSC544 Assignment #5

due Tuesday 4/28 in class

version 1.0

Problems

1. Show that the complexity classes P and NP are closed under concatenation and union.

2. A ***triangle*** is an undirected graph is a 3-clique. Show that $TRIANGLE \in P$, where
$$TRIANGLE = \{\langle G \rangle | G \text{ contains a triangle}\}.$$

3. Call graphs G and H ***isomorphic*** if the nodes of G may be reordered so that it is identical to H. Show that $ISO \in NP$, where

$$ISO = \{\langle G, H \rangle | G \text{ and } H \text{ are isomorphic graphs}\}.$$