Logic and Computation I, Autumn 2022

Homework No.6
Due Date: December 5, 11:59 pm (Beijing)
Name:

Problem 1
Show that the decision problem of the existence of Hamiltonian cycles for undirected graphs (HAMCYCLE) is NP-complete.

Solution:

Problem 2

(a) Is $2^{n+1} = O(2^n)$? Is $2^{2n} = O(2^n)$?

(b) Show $\max(f(n), g(n)) = \Theta(f(n) + g(n))$.

(c) Show $\log(n!) = \Theta(n \log n)$.

Solution: