

Assignment 8

Issue date: 14 Dec 2016 **Due date:** 21 Dec 2016

Exercise 1.

Show that

$$\text{INEQ}(\Sigma, \cup, \cdot, *) \leq_m^{\log} \text{INEQ}(\Delta, \cup, \cdot, *)$$

for arbitrary alphabets Σ, Δ such that $\|\Delta\| \geq 2$.

Exercise 2.

Show that

$$C =_{\text{def}} \{ 0^n 1^n \mid n \in \mathbb{N} \} \notin 1\text{-T-DSPACE}(s)$$

for all $s = o(\log n)$.

Exercise 3.

Show that

$$\text{NP}^B \subseteq \text{PSPACE}$$

for all sets $B \leq_m^{\log}$ -complete for PSPACE.