

Problem Set 6 — Due May 13, 2004

Problem 1. Prove that $L = \{x\#y : x, y \in \{0, 1\}^* \text{ and } x \neq y\}$ is context free.

Problem 2 Prove that $L = \{a^i b^j c^k : j = \max\{i, k\}\}$ is not context free.

Problem 3. Is $L = \{b_i \# b_{i+1} : b_i \text{ is } i \text{ in binary, } i \geq 1\}$ context free? Prove your answer either way.