

CS 3500 Section A, Spring 2000
Homework 2 – due Tuesday, Feb. 1

Problem 1 Problem 1.41, page 90 of *Sipser*.

Show that the following languages over $\{0, 1\}$ are not regular:

Problem 2 $\{0^n 1^m 0^n \mid n, m \geq 0\}$

Problem 3 $\{w \in \{0, 1\}^* \mid w = w^R\}$

Problem 4 $\{0^{n!} \mid n \geq 0\}$

Problem 5 $\{0^{p-1} \mid p \text{ is a prime}\}$

Problem 6 $\{0^n 1^m \mid n \neq m\}$