

CSE 431 Spring 2009

Assignment #8

Due: Friday, June 5, 2009

You final grade on homework will be based on your best 7 out of 8 homeworks.

Reading assignment: Finish reading chapter 8 of Sipser's text.

Problems:

1. Sipser's text: Problem 8.4 (both editions).
2. Sipser's text: Problem 8.11 in the 2nd edition (Problem 8.9 in the 1st edition).
3. Let $EQ_{REG} = \{\langle R, S \rangle \mid R \text{ and } S \text{ are equivalent regular expressions}\}$. Show that $EQ_{REG} \in PSPACE$.
4. Let $A_{LBA} = \{\langle M, w \rangle \mid M \text{ is an LBA that accepts input } w\}$. Show that A_{LBA} is PSPACE-complete.
5. Show that $TQBF$ restricted to formulas where the part following the quantifiers is in conjunctive normal form is still PSPACE-complete.
6. (Bonus) Sipser's text: Problem 8.15 (both editions).