CSE 431 Spring 2012
Assignment #8

Due: Friday, June 1, 2012

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

Reading assignment: Finish reading chapter 8 of the text.

Problems:


2. Let $EQ_{REX} = \{\langle R, S \rangle \mid R$ and $S$ are equivalent regular expressions\}. Show that $EQ_{REX} \in PSPACE$.

3. Let $A_{LBA} = \{\langle M, w \rangle \mid M$ is an LBA that accepts input $w\}$. Show that $A_{LBA}$ is PSPACE-complete.

4. Show that $TQBF$ restricted to formulas where the part following the quantifiers is in conjunctive normal form is still PSPACE-complete.

5. Show that the language $A$ of properly nested parentheses is in $L$. (For definiteness recall that $A$ is the language generated by the grammar $S \rightarrow (S) \mid SS \mid \varepsilon$ though this grammar is not necessarily useful.)

6. (Bonus) Sipser’s text: Problem 8.15 (both editions).