CSE 547T Introduction to Formal Languages & Automata November 24, 2015

Practice Problems

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Here are some practice problems on the final topics covered in lecture that were not covered by previous homework assignments, in case you are looking to solidify your grasp of this material. They will not be graded and you do not need to turn in solutions to these problems for credit.

The problem numbers are for the second edition (2e), third edition (3e), and/or international third edition (i3e) of Introduction to the Theory of Computation by Michael Sipser.

1. Problem 8.12 (2e/3e)/8.28 (i3e)
2. Problem 8.14 (2e)/8.15 (3e)/8.31 (i3e)
3. Problem 9.16 (2e/3e)/9.24 (i3e)
4. Problem 9.22 (2e/3e)/9.15 (i3e) An *oracle* is a subroutine, for which we do not charge the calling algorithm for the time/space/etc. used by the oracle function: we compute the complexity of an algorithm using oracles by charging the algorithm as usual for the time and space needed to write down the input to an oracle and one step for calling an oracle, but then assuming that the oracle function returns immediately with its answer. We will discuss oracles in the final lecture.