TD 4

14/10/2009

Exercise 1. Give a polynomial time algorithm for the following problem:
Input A tree automata
Output "yes" iff the recognized language is a singleton set

Exercise 2. Give a polynomial time algorithm for the following problem:
Input A tree automaton
Output "yes" iff the recognized language is finite

Exercise 3. Give a polynomial time algorithm for the following problem:
Input A deterministic tree automaton
Output "yes" iff every term is accepted

Exercise 4. Consider the following problem:
Input A tree automaton A and a term t
Output "yes" iff at least one ground instance of t is accepted by A

1. Prove that if t is linear then the problem can be solved in polynomial time
2. Prove that if t is non-linear then the problem is *EXPTIME*-complete.