

Group: _____

Assignment 3

Name: _____

Formal Models

Matr.Nr.: _____

Summer Semester 2010

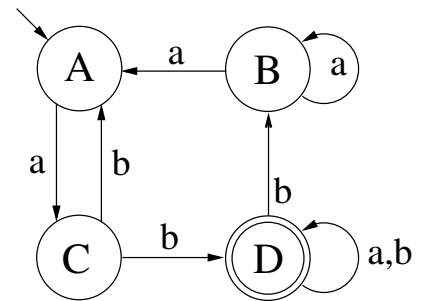
Points: _____

Due: 25.03.2010 08:30

Institute for Formal Models and Verification, Dr. Robert Brummayer, Dipl.-Ing. Florian Lonsing

Exercise 9

Given FA A where $\Sigma := \{a, b\}$ as shown on the right. Draw the oracle-automaton $Oracle(A)$ as defined on lecture slide 8. Make $Oracle(A)$ complete by adding an error state.

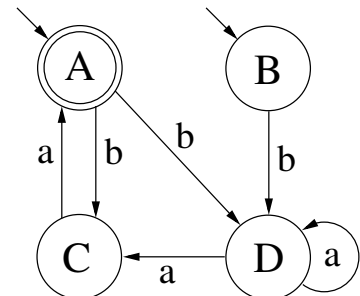


Exercise 10

Given FA A from Exercise 9, draw the *optimized* oracle-automaton $Oracle(A)$ as defined on lecture slide 9. Is $Oracle(A)$ complete? Justify your answer.

Exercise 11

Draw the I/O-automaton for FA A as shown on the right.



Exercise 12

Implement an FA accepting the language generated by the regular expression $(a | b)^* ab(a | b)^*$ in your favourite programming language. You may choose one out of the different implementation patterns presented in the lecture.¹ Briefly describe your solution and submit a print-out of the source code as well.

¹See also <http://fmv.jku.at/fm/faimpl.zip>.