



Chapter 0

Exercises

Course "Compiler Construction"

Martin Steffen

Spring 2024



Section

Exercises 01

- 1.1: Reg. expressions
- 1.2: Reg. Expr \rightarrow automaton
- 1.3: Tools
- 1.4: Reflection
- 1.5: Determinization
- 1.6 Minimization

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1.1: Reg. Expressions

1. begin and end with a
2. begin or end with a
3. digits without leading 0
4. even numbers
5. all 2s precede all 9s
6. no 3 consecutive b 's
7. odd a 's or odd b 's
8. even a 's and even b 's
9. equal number of a 's and b 's



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Compiler
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1.2: Reg. Expr \rightarrow automaton



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$$(a \mid b)^* a(a \mid b \mid \epsilon)$$

1. in prose
2. Thompson
3. subset construction
4. minimization

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1.3: Tools



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1.4: Reflection: why multi-stage

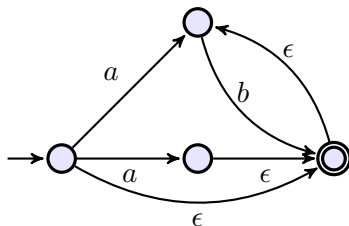


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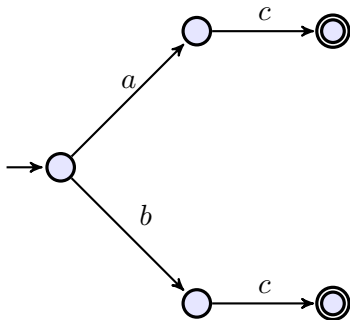
1.5: Determinization



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1.6: Minimize the following (“ ac or ab ”)



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