

CS-C2160 - Theory of Computation, Lecture, 11.1.2022-11.4.2022

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## 4. Compulsory problem set: Regular expressions

« 3. Compulsory problem set: Non-deterministic finite automata

Course overview

Exercise description

My submissions **1 / 50** ▾

### Regular expression for a language

Consider the language  $L = \{w \in \{a,b\}^* \mid w \text{ contains exactly two } a\text{'s}\}$ .

Give a regular expression that describes the language.

The syntax for regular expressions is:

- alphabet: a, b, ..., z, 0, 1, ..., 9
- parentheses: (, )
- union: | (the vertical stroke symbol)
- empty string: \_ (the underscore symbol) or  $\epsilon$  (the greek epsilon)
- empty set: @ (the 'at'-symbol) or  $\emptyset$  (AltGr + Shift + ö on some keyboards)
- Kleene star: \* (the asterisk symbol)

For example, the regular expression `_|aa(bc)*` describes the language  $\{\epsilon, aa, aabc, aabcbc, aabcbcbc, \dots\}$  over the alphabet  $\{a, b, c\}$ .

Your solution:

Submit!

4.2 From regular expression to automaton »

Earned points

**1 / 1**

Exercise info

Exercise category

Compulsory exercises

Your submissions

1 / 50

Points required to pass

1

Deadline

Sat, 31 Dec 2022 23:59:00 +0200

Total number of submitters

161

« 3. Compulsory problem set: Non-deterministic finite automata

Course overview

4.2 From regular expression to automaton »

#### Previous activity

◀ 3. Compulsory problem set: Non-deterministic finite automata

#### Next activity

5. Compulsory problem set: Context-free grammars ▶



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