



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

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Course feedback

Syllabus

9. Voluntary problem set: Context-free grammars

These problems are completely **voluntary** (no bonus points given, either) that one may solve, for instance, before the exam to practise the constructions.

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Exercise description

My submissions **1 / 50** ▾

Grammar for a language

Consider the language $L = \{w \in \{a, b\}^* \mid w \text{ is of the form } a^n x b^{n+2}, \text{ where } x \text{ is any string of length 3 in } \{a, b\}^*\}$.

Give a context-free grammar that generates the language.

Enter the grammar in the space below, one production on each line. Use this syntax:

- production: variable -> string1 | string2 ... | stringn
- variables: capital letters A,B,...,Z
- terminals: lower case letters a,b,...,z and numbers 0,1,...,9
- empty string: _ (the underscore symbol)
- start symbol: the first variable in the grammar

For instance, the grammar

A -> aAa | B
B -> bB | _

generates the language $\{a^n b^k a^n \mid n \geq 0 \text{ and } k \geq 0\}$.

Earned points

1 / 1

Exercise info

Exercise category

Voluntary exercises

Your submissions

1 / 50

Deadline

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

Total number of submitters

11

Your solution:

Submit!

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Previous activity

◀ 8. Voluntary problem set: Regular expressions

Next activity

Earlier lecture slides (2021) ▶



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