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Algorithmen und Datenstrukturen in der Bioinformatik

Zweites Übungsblatt WS 09/10

Abgabe einen Tag vor der Übung 12:00

Name: _____ Übungsgruppe: A B C
Matrikelnummer: _____ Ich kann Aufgabe _____ nicht vorrechnen.

Exercise 4: Suffix trees

Construct the suffix tree for the text $T = \text{acbaaabaa}$.

Show how you can find all occurrences of the pattern $T = \text{aa}$ in this tree.

Exercise 5: Suffix arrays

Build the suffix array for the text $T = \text{acbaaabaa}$. Using the MLR-Heuristic, find all occurrences of the pattern $T = \text{aa}$ in this array. Give the number of necessary pattern comparisons.

Exercise 6: Transformation of Suffix-Trees

- Create an efficient algorithm (Pseudo-Code) which transforms a Suffix-Tree into a Suffix-Array.
- Think of an useful example and use it to illustrate of your algorithm.
- What's the running time of your algorithm?