Universität Greifswald
Institute für Mathematik and Informatik
Lecturer: Marc Hellmuth Tutor: Nikolai Nøjgaard

4. Exercise "Datenstrukturen und Effiziente Algorithmen", WS 18/19

Exercise 1: (10 Credits)
Show that the "Good-Suffix" shift rules do not miss any occurences of P in T.

Exercise 2: (7.5 Credits)
For a given pattern P, let $N_j(P)$ be the lengths of a longest suffix of $P[1..j]$ that is also a suffix of P. Modify your implemented Z-algorithm to compute all values $N_j(P)$ for for the pattern

$$P = abracadabrarbracadabrabracadabraabracadabrarbracadabrabracadabra$$

and give a tabular print out of each 5th step of your computation.

Exercise 3: (5 Credits)
Construct the suffix tree for $S = WONNESONNE\$$

Exercise 4: (7.5 Credits)
Let T be a rooted tree with ℓ leaves such that each non-leaf vertex has degree greater than two. Show that T has $O(\ell)$ vertices and $O(\ell)$ edges.

Deadline: Wednesday - November 14, 2018 - 12.15pm