Genomics

Freie Universität Berlin, Institut für Informatik
Knut Reinert, Peter Robinson, Sebastian Bauer
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5. Übungsblatt vom 24. November 2012
Diskussion am 29. November 2012

1. Name two applications of the Burrows-Wheeler transform. What ist the actual benefit of the Burrows-Wheeler transform in these application (in comparision to other methods)?

2. Given the Burrows-Wheeler transform $L = $ `ammnnb$aaaa`. (without dot)

   1. Decode the original text.
   2. Formulate an algorithm that efficiently counts the number of occurrences of a pattern in the original text (without decoding the original text). Describe all of the used data structures.
   3. Illustrate how your algorithm works by searching the pattern $P = $ `ana`.

3. For the text **tacaacaatacaagag** construct the BWT and the arrays C and OCC. Use them to search for the pattern **aca**.