Genomics

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5. Übungsblatt vom 19. November 2012
Diskussion am 5. Dezember 2013

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.