Exercise 1.

BWT

- For the text `tacaacaatacaagag$` construct the BWT and the arrays $C$ and $Occ$. Use them to search for the pattern `aca`.

Exercise 2.

BWT - compressing $L$

- Let $R$ be the MTF encoding of $L$ and $Y$ the corresponding list of characters. Give an algorithm in pseudocode to decode $R$ into $L$.

Exercise 3.

BWT - compressing $pos$

- Present an example that proves the following assumption stated in the script:
  
  If we mark every $\eta$-th row in the matrix $M$ the worst case time of a $pos$ query is $O(\frac{n-1}{\eta}n)$

Exercise 4.

Chaining

- Prove the lemmata used for the Manhattan distance and the sum-of-pairs distance in the chaining problem, as discussed in the lecture (Lemma 1 and Lemma 3).