

## **Advanced Algorithms**

**WS 2019/20**

**Homework 5**

06.11.2019

**Exercise 1:**

Give a formal proof for the correctness of the solution of the string matching problem which uses a suffix tree for the considered text string.

**Exercise 2:**

Construct an example where the node  $s(v)$  has an outgoing edge with the first symbol of its marking is  $g \in \Sigma$  but the node  $v$  has not such an edge.

**Exercise 3:**

Prove Lemma 2.2 of the lecture.

**Exercise 4:**

Develop a linear time algorithm which, given a suffix tree for the string  $x\#$ , constructs a suffix tree for  $x$ .