

Norbert Blum

Advanced Algorithms

WS 2017/18 **Homework 12**

15.01.2018

Exercise 1:

Guess to reduce the additional storage needed by mergesort.

Exercise 2:

Work out the analysis of $QS(n)$. Show that the obtained upper bound is tight.

Exercise 3:

Show that the result of the analysis of randomized quicksort would not be worse if the assumption that n distinct numbers have to be sorted does not hold.

Exercise 4:

Prove Lemma 4.4 of the lecture.