Institut for Matematik og Datalogi
Syddansk Universitet

October 10, 2018
JFB

DM551 – Algorithms and Probability – 2018
Lecture 11

Lecture, October 9

We analyzed the expected number of comparisons done by Randomized Quicksort, using section 7.4.2 of *Introduction to Algorithms*, 3rd edition, by Cormen, Leiserson, Rivest, and Stein (CLRS). We covered section 13.9 (without proofs) and section 13.10 in Kleinberg and Tardos. We did not get as far as Theorem 13.46 in section 13.10, but you should read the subsection showing how to prove it. (Note that it should really say $\geq 16n \ln n$, rather than $\Omega(n \log n)$, since the latter also includes values less than the former.)

Lecture, October 22

We will cover sections 5.1, 5.2, and 5.3 in CLRS.

Lecture, October 29

We will cover sections 5.4.3, 5.4.4, and 11.3 in CLRS.

Problems to be discussed on October 31

1. Exercises in CLRS: 5.2-1, 5.2-2, 5.2-3, 5.2-5, 5.3-2, 5.3-3, 5.3-4.
2. Exercise in CLRS: 5.3-5. How would you check that there are no duplicates? What would you do if you found duplicates?
3. Problem 5-2 in CLRS, pages 143–144.