Universität Erlangen-Nürnberg
Department of Computer Science 7
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Introduction to Data Structures and Algorithms

Exercise sheet 5

Exercise 8:

Write pseudocode(s) for an algorithm *Selection_sort* which sorts an array $A[\cdot]$ of size n as follows: It first finds the smallest element and exchanges it with A[1], then finds the second smallest element and exchanges it with A[2], and so forth.

What are the best-case and worst-case running times of this algorithm ?

Exercise 9:

Illustrate how the algorithm *Merge_sort* works on the input sequence $\langle 17,2,36,5,7,100,2,2,59 \rangle$. Indicate which of the three "2"-entries ends up in which position of the sorted array.

Exercise 11:

What are the minimum and the maximum numbers (indices) of elements in a heap of height h ?