

Algorithm Engineering

Exercise No. 6

Monday 24th November, 2014

Submission

- (1) Submit your solution with `$ git request-pull` (or similar) to jkm@informatik.uni-jena.de. Don't forget to attach the measurement plots and your observations.

1 Mergesort

Implement the mergesort algorithm. Document the time and space complexities of all your sorting algorithms in \mathcal{O} notation. Test your implementations for correctness.

2 Measure and Plot

Measure and plot the wall clock time of your three algorithms on the following input:

- Sorted input
- Reverse sorted input
- Permuted input
- Input with repeated elements

Prepare a plot for each kind of input showing the wall clock time for increasing input size. Send your four generated plots by email. Tell me about your observations regarding the plots.