

2) (10 pts) ALG (Sorting)

(a) (6 pts) Consider the array below passed to merge sort. After dividing the full array into the smallest pieces, it will start calling the merge operation. In total, how many times will the merge function will be called for the following array? Show the content of the array right before the last merge operation.

17	12	11	14	15	16	10	13
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Number of merge function calls: _____

Contents of the array right before the last merge function call:

index	0	1	2	3	4	5	6	7
data								

(b) (4 pts) List the Big-Oh run-times requested for the following sorting algorithms, in terms of n , the number of items being sorted:

Worst case run-time of quick sort : _____

Average case run-time of quick sort : _____

Worst case run-time of merge sort : _____

Average case run-time of merge sort : _____