

REPORT FOR 1DV516
PROGRAMMING ASSIGNMENT 3
ALGORITHMS AND ADVANCED DATA STRUCTURES

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OCTOBER 24, 2023

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1 Introduction

2 G

2.1 Problem 2 - Vehicle

2.2 Problem 5 - Quick Sort

The experiment I conducted consisted of creating an array of random integers of size n . The sizes range from 10.000 to 180.000 in steps of 10.000. For each size, I test the time it takes to sort the array using different max depth. Those range from 0 to 50. In the end, after I wrote all the results to a file I extract the lowest time and the corresponding depth with it.

Size	Depth (I)	Time (I)	Depth (H)	Time (H)
10000	7	0.159809	10	0.278958
20000	10	0.396017	9	0.683519
30000	13	0.77251	9	1.054912
40000	10	1.27356	11	1.433325
50000	14	1.518215	13	1.875482
60000	14	1.837233	11	2.058394
70000	14	2.306014	12	2.584439
80000	16	2.640855	12	2.804931
90000	16	3.121562	14	3.385567
100000	16	3.784894	14	3.747439
110000	20	390.397541	14	416.784293
120000	16	465.747088	12	431.19725
130000	18	502.358124	15	467.312337
140000	24	586.887667	16	505.745455
150000	20	621.997124	14	549.29238
160000	24	688.288208	12	576.154504
170000	25	747.045876	16	655.990379
180000	22	798.714116	16	687.898672

3 VG

3.1 Problem 6 - Merge Sort

3.2 Problem 7 - Shell Sort