

CPSC 319 Assignment 1: Analysis of Algorithm

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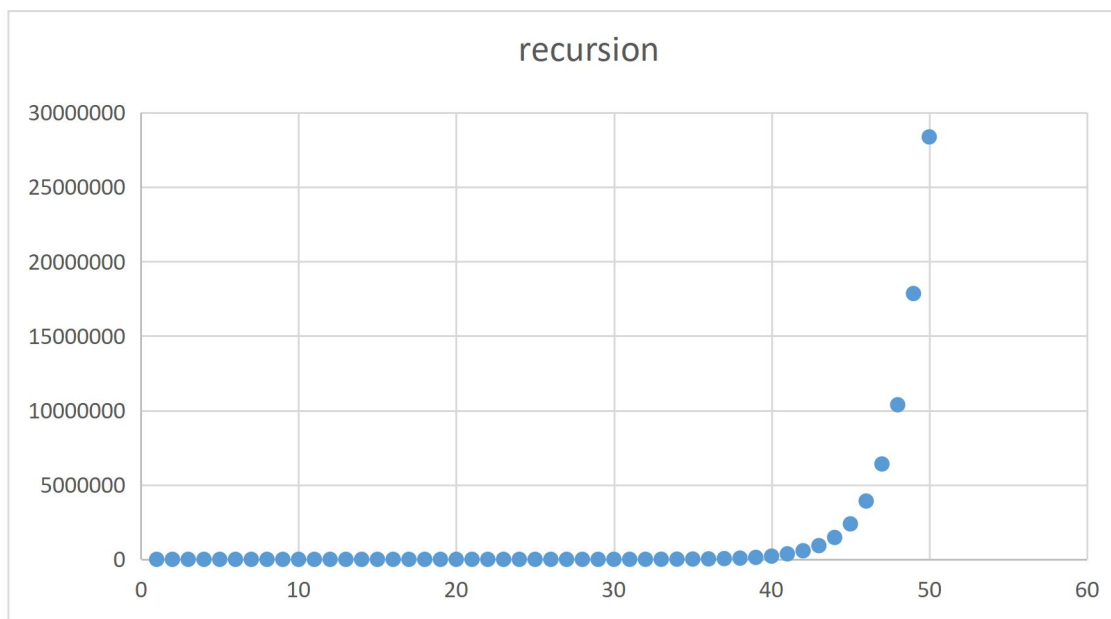
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1.recursion algorithm

Input size n	Time(in microsecond)
1	138
2	43
3	21
4	30
5	29
6	45
7	39
8	34
9	39
10	50
11	50
12	43
13	55
14	53
15	41
16	110
17	50
18	74
19	88
20	116
21	218
22	135
23	173
24	176
25	214
26	299
27	423
28	691
29	1143
30	1979
31	3149
32	5084
33	7508
34	11928
35	19314
36	31665
37	50466

38	81634
39	132439
40	215712
41	368385
42	578469
43	922597
44	1470781
45	2380226
46	3915459
47	6403830
48	10380356
49	17851897
50	28369549

Scatter plot :

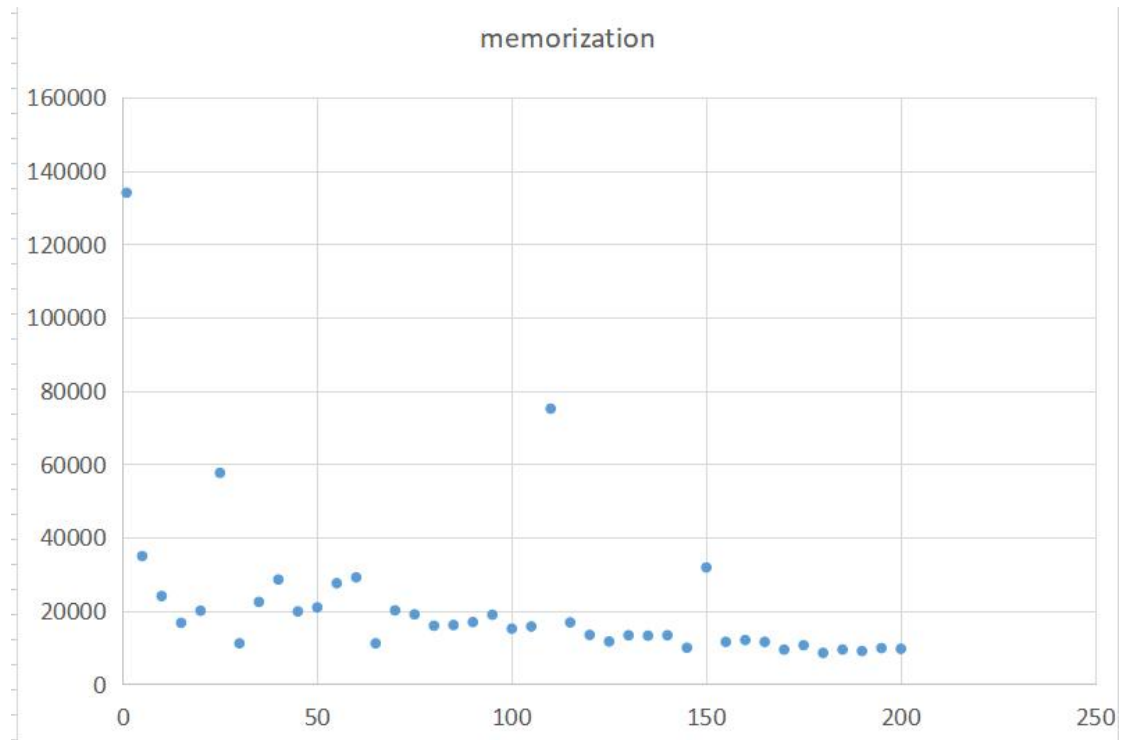


2.memorization algorithm

Input size n	Time(in milliseconds)
1	134000
5	34900
10	24000
15	16700
20	20000
25	57600
30	11100
35	22400
40	28500
45	19800
50	20900
55	27500
60	29100
65	11100
70	20100
75	19000
80	15900
85	16100
90	16900
95	18900
100	15100
105	15700
110	75100
115	16800
120	13400
125	11600
130	13300
135	13200
140	13300
145	9900
150	31800
155	11500
160	12000
165	11500
170	9400
175	10600
180	8500
185	9400
190	9000

195 9800
200 9600

Scatter plot :



Algorithm3: iterative loop

Input size n	Time(in milliseconds)
1	181300
5	21500
10	39400
15	23500
20	33300
25	50200
30	20200
35	24800
40	23400
45	21700
50	21300
55	30400
60	18800
65	25500
70	13500
75	15500
80	11500
85	11100
90	12100
95	12100
100	14500
105	17000
110	24400
115	13100
120	12600
125	13800
130	16200
135	23100
140	13200
145	13700
150	15700
155	16100
160	12700
165	14100
170	15800
175	12000
180	11700
185	10100

190	8900
195	9200
200	9100

Scatter plot :

