

Algorithm, pa1

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I. Table

size	case	IS		MS		QS		HS	
		CPU time (ms)	Memory (KB)	CPU time (ms)	Memory (KB)	CPU time (ms)	Memory (KB)	CPU time (ms)	Memory (KB)
4000	2	0	0	0	0	0	0	0	0
	3	15.625	0	0	0	0	0	0	0
	1	0	0	0	0	15.625	0	0	0
16000	2	0	0	0	0	31.25	0	0	0
	3	78.125	0	0	0	31.25	0	0	0
	1	46.875	0	0	0	31.25	0	0	0
32000	2	0	0	0	0	62.5	0	15.625	0
	3	281.25	0	0	0	62.5	0	0	0
	1	140.625	0	0	0	46.875	0	0	0
1000000	2	0	0	78.125	0	1265.62	0	93.75	0
	3	299609	0	78.125	0	1125	0	93.75	0
	1	132156	0	156.25	0	1296.88	0	171.875	0

We can observe that it actually take no time for IS to sort sorted sequence (best case).

II. Graph

In other test cases, I aimed for evaluate average performance, where we found that my QS was not good under $n < 100000$ and heap is always good under given cases. I think there is a huge room for improvement in my code.

III.

