SORT

CẤU TRÚC DỮ LIỆU VÀ GIẢI THUẬT

Hướng dẫn: Trương Tấn Khoa, Phạm Trọng Nghĩa

MỤC LỤC

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BÁO CÁO

Task 5

	100	1k	10k	50k
Linear	2	228	23540	570820
Bubble sort + BS	<1	75	7837	201785
Selection sort + BS	<1	65	6326	160137
Insertion sort + BS	<1	46	3557	88904
Merge sort + BS	<1	5	58	343
Quick sort + BS	<1	4	49	294
Radix sort + BS	<1	5	69	442

(ms)

We consider the cases:

- 100: Quick sort is the best algorithm, with complexity $O(Nlog_2N)$. In the worst case, pivot is minElement/maxElement with time complexity $O(N^2)$.

- 1k: Quick sort is the best algorithm, with complexity $O(Nlog_2N)$. In the worst case, pivot is minElement/maxElement with time complexity $O(N^2)$.

- 10k: Quick sort is the best algorithm, with complexity $O(Nlog_2N)$. In the worst case, pivot is minElement/maxElement with time complexity $O(N^2)$.

- 50k : Quick sort is the best algorithm, with complexity $O(Nlog_2N)$. In the worst case, pivot is minElement/maxElement with time complexity $O(N^2)$.

- Time complexity of Merge sort is $O(N^2)$.

- Time complexity of Radix sort is $O(kN)$ with k is maxUnitDigit, so Radix sort is still a good choice in average.

THAM KHẢO

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