Quiz Submissions - Elementary Sorts and Mergesort Reading Quiz

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Retaken Attempt 2

Written: Mar 15, 2022 1:25 PM - Mar 15, 2022 1:25 PM

Submission View

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Question 1 Correct on previous attempt(s) **1 / 1 point**

What is the tilde approximation for the number of comparisons done by selection sort?

- ✔ $\frac{N^2}{2}$
- $\frac{N^2}{4}$
- N^2
- $N \lg N$

Question 2 Correct on previous attempt(s) **1 / 1 point**

What is the tilde approximation for the number of comparisons done by insertion sort?

- $\frac{N^2}{2}$
- ✓ $\frac{N^2}{4}$
- N^2
- $N \lg N$

Question 3 Correct on previous attempt(s) **1 / 1 point**

Based on the tilde approximations for selection sort and insertion sort, which would you expect to be faster (all else being equal)?

- ✓ insertion sort
- selection sort

Question 4 Correct on previous attempt(s) **1 / 1 point**

What is the tilde approximation for the (worst case) number of comparisons done by mergesort?

- $\frac{N^2}{2}$

$\frac{N^2}{4}$

N^2

✓ $N \ lg \ N$

Question 5 Correct on previous attempt(s) **1 / 1 point**

What is the order of growth of both selection sort and insertion sort?

$\frac{N^2}{2}$

$\frac{N^2}{4}$

✓ N^2

$N \ lg \ N$

Question 6 Correct on previous attempt(s) **1 / 1 point**

What is the order of growth of mergesort?

$$\frac{N^2}{2}$$

$$\frac{N^2}{4}$$

$$N^2$$

✓ $N \ lg \ N$

→ Question 7 Retaken — 1 / 1 point

Which sorts are stable (select all that apply)?

- ✓ [x] insertion sort
- ✓ [ ] selection sort
- ✓ [x] merge sort

Question 8 Correct on previous attempt(s) — 1 / 1 point

Which sort requires extra memory?

- insertion sort
- selection sort
- ✓ merge sort

Question 9 Correct on previous attempt(s) — 1 / 1 point

Which sort works by iterating over the array, selecting the smallest item and moving it into place with each iteration?

- ◯ insertion sort
- ✓ ◉ selection sort
- ◯ merge sort

Question 10 Correct on previous attempt(s) **1 / 1 point**

Which sort works by iterating over the array and inserting each item into place?

- ✓ ◉ insertion sort
- ◯ selection sort
- ◯ merge sort

Question 11 Correct on previous attempt(s) **1 / 1 point**

Which sort works by splitting the array in half, sorting the halves, and then merging them back together?

- ◯ insertion sort
- ◯ selection sort
- ✓ ◉ merge sort

Attempt Score: 11 / 11 - 100 %

Overall Grade (highest attempt): 11 / 11 - 100 %

Done