

Task No. 13

Algorithms:

- **Quicksort.** Pivot – the median of the first, middle and last element.
- **Mergesort.**

Tests:

1. Data – randomly generated numbers. Analyze 5 different sizes of data. Generate 5 sets of random numbers with each size of data and perform 10 tests on each of them.
2. Data – numbers generated in descending order. Analyze 5 different sizes of data. Perform at least 10 tests with the same size of data.

The goal is to determine and analyze the factors influencing the sorting speed of algorithms.

Algorithms sort the data in ascending order.

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Task No. 14

Algorithms:

- **Heapsort.**
- **Mergesort.**

Tests:

1. Data – randomly generated numbers. Analyze 5 different sizes of data. Generate 5 sets of random numbers with each size of data and perform 10 tests on each of them.
2. Data – almost sorted numbers in ascending order. Analyze 5 different sizes of data. Depending on the implementation, generate 1 or 5 sets with each data set. Perform at least 10 tests with the same size of data.

The goal is to determine and analyze the factors influencing the sorting speed of algorithms.

Algorithms sort the data in ascending order.