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Abstract-

I. INTRODUCTION

In this paper we are introducing Quick Sort which is a new sorting algorithm. Due to its $O(n \log n)$ time complexity and in-place sorting it is a better sorting algorithm compared to the current methods. The algorithm works very well for different types of input data.This paper will begin with the overall description of the Quick Sort algorithm, followed by a detailed description and analyses. We will conclude with remaining issues and future tasks.

A. Background

The current sorting algorithms such as bubble sort and insertion sort have the time complexity of $O(n^2)$ in the worst case scenario, thus making them unsuitable for sorting large data. Another divide and conquer algorithm, merge sort, has the optimal time complexity of $O(n \log n)$ for the best case scenario. In general any sorting algorithm that can correct one bad pair per comparison will have $O(\frac{n(n-1)}{2})$ for its worst case scenario. There has been no in-place sorting algorithm that has the time complexity of $O(n \log n)$.

B. Literature review of similar program

III. MY WORK

IV. SOME COMMON MISTAKES

II. RESEARCH DESIGN

ACKNOWLEDGMENT

REFERENCES