Abstract

Counting sort is a simple, stable and efficient sorting algorithm with linear running time, which is a fundamental building block for many applications. Counting sort algorithm has been widely used in data processing systems, because of its high efficiency, fast speed and stable nature. Therefore, a thorough study of its time complexity is required. This paper presents a modified version of counting sort E-Counting Sort with some efficiency improvements. An analysis of the E-Counting sort algorithm in comparison with original counting sort algorithm clearly shows that E-Counting sort algorithm having a reduced time complexity approximately to half of the original one. The new version can be applied to many real world applications providing the required result as efficient and as effective as original counting sort without affecting its real nature and improve the efficiency of application program.

References

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Implementing and Analyzing an Efficient Version of Counting Sort (E-Counting Sort)


Index Terms

Computer Science

Algorithms

Keywords

Counting Sort Algorithm Efficiency Running Time.