Abstract

It consider the problem of computing efficient strategies for Searching. As a generalization of the classical binary search for ordered array, suppose one wishes to find a specific element in an ordered array by making comparisons, where each comparison indicates the endpoint closer to the desired element. Given the likelihood of each element being the one searched, the objective is to compute a search strategy that minimizes the expected number of comparisons. Practical applications of this problem include file system synchronization and software testing. Here this paper presents a new algorithm which is 2 times faster than classical Binary Search. This represents a significant improvement over previous Binary Search Algorithm having worst case complexity $O(\log n)$. This New algorithm Quadratic Search having worst case complexity $O(\log n/2)$. It is shown in this paper that by splitting and checking the ordered array in a way that the searching speed of a specific element is twice than the classical Binary search.

References

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