Algorithm for Linear Number Partitioning into Maximum Number of Subsets

Abstract

The number partitioning problem is to decide whether a given multiset of integers can be partitioned into two "halves" of given cardinalities such that the discrepancy, the absolute value of the difference of their sums, is minimized. While Partitioning problem is known to be NP-complete, only few studies have investigated on its variations. While lots of investigation has been made for two-way partitioning, only a few have for multi-way partitioning, while most of them are not feasible for real time environment. We introduce an improved multi-way partitioning algorithm feasible for real time which returns maximum number of subset can be made based on the order of the numbers as they appear.

References

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- Walsh, "Where are the really hard manipulation problems? The phase transition in manipulating the veto rule," IJCAI-09, p. 324–329.

Index Terms

Computer Science Algorithms

Keywords

Anytime algorithm Greedy heuristic Linear partitioning NP-completeness Partitioning problem