

Modified Approximation Methods for Finding an Optimal Solution for the Transportation Problem

Authors : N. Guruprasad

Abstract : This paper presents a modification of approximation method for transportation problems. The initial basic feasible solution can be computed using either Russel's or Vogel's approximation methods. Russell's approximation method provides another excellent criterion that is still quick to implement on a computer (not manually) In most cases Russel's method yields a better initial solution, though it takes longer than Vogel's method (finding the next entering variable in Russel's method is in $O(n_1 \cdot n_2)$, and in $O(n_1 + n_2)$ for Vogel's method). However, Russel's method normally has a lesser total running time because less pivots are required to reach the optimum for all but small problem sizes ($n_1 + n_2 \approx 20$). With this motivation behind we have incorporated a variation of the same - what we have proposed it has TMC (Total Modified Cost) to obtain fast and efficient solutions.

Keywords : computation, efficiency, modified cost, Russell's approximation method, transportation, Vogel's approximation method

Conference Title : ICGHOST 2020 : International Conference on Ghost Conference

Conference Location : ghost city, Other

Conference Dates : December 12-13, 2020