Solving single machine scheduling problem with maximum lateness using a genetic algorithm

ABSTRACT

We develop an optimised crossover operator designed by an undirected bipartite graph within a genetic algorithm for solving a single machine family scheduling problem, where jobs are partitioned into families and setup time is required between these families. The objective is to find a schedule which minimises the maximum lateness of the jobs in the presence of the sequence independent family setup times. The results showed that the proposed algorithm is generating better quality solutions compared to other variants of genetic algorithms

Keyword: Genetic algorithm, Single machine scheduling