두 개의 장비그룹을 고려한 병렬기계의 일정계획

A Heuristic for Parallel Machine Scheduling System with Two Machine Groups

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Abstract

In this paper, we consider n−job, non−preemptive and m identical parallel machines scheduling problem when some of the jobs can be processed only on certain machines group. The objective function is minimize the sum of earliness and tardiness with different release times and due dates. We formulate the problem in mixed integer programming form. The problem is proved to be NP-complete. Thus, a heuristic is developed to solve this problem. To illustrate its suitability and efficiency, a proposed heuristic is compared with a genetic algorithm for a large number of randomly generated test problems in ship engine assembly shop. Through the computational experiment, the proposed algorithm is verified to yield good solutions within a few seconds.