Abstract

Project scheduling with limited resources is a challenging management problem that is of immense importance to both practitioners and researchers. This problem is known to be NP-hard even under the simplifying assumptions of single renewable resource constraint, its constant availability over time and minimization of makespan as objective. This paper presents an improved Genetic Algorithm (GA) based approach for the single mode resource constrained project scheduling problem (RCPSP) with makespan minimization as objective. The proposed approach uses binary string based representations and operators for chromosomes. The approach was tested on some difficult instances with high optimality gap in the J120 data set of PSPLIB. It was found that the proposed approaches gave better results as compared to activity list based representations that are commonly used.
An Improved Genetic Algorithm for Resource Constrained Project Scheduling Problem

- Kolisch, R., Hartmann, S. "Experimental investigation of heuristics for
An Improved Genetic Algorithm for Resource Constrained Project Scheduling Problem


Index Terms

Computer Science Algorithms

Keywords

Resource Constrained Project Scheduling Problem RCPSP Genetic Algorithm Project Makespan PSPLIB