Abstract

In this paper, we will present a new variant of genetic algorithm to solve optimization problems where the number of feasible solutions is very important. This approach consists on a hybrid algorithm between genetic algorithms introduced by J. Holland (1975) and dynamic programming method of R. Bellman (1957). Then we will apply this hybrid algorithm to solve a single machine scheduling problem that consists to minimizing the sum of earliness and tardiness costs with common due date. Our goal is designing a new approach to find a good near solutions for combinatory problems as scheduling problems or traveling salesman problem which have an exponential number of solutions and known as NP-hard problems.

References

- M. Feldman, and D. Biskup, "Benchmarks for scheduling on a single machine against restrictive and unrestrictive common due dates," Computer & Industrial
Hybrid Algorithm for Optimization Problems Applied to Single Machine Scheduling

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