
Generalized Relax-and-Fix heuristic

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Abstract

This paper introduces a heuristic for mixed-integer mathematical programs, that can be seen as a generalization of the relax-and-fix heuristic: a sequence of derived subproblems is solved, progressively fixing variables in the original problem. We propose a generic implementation and report on numerical results for four well-known operational research applications: lot-sizing, vehicle routing, bin-packing and portfolio optimization. Results show that this heuristic may be competitive depending on the definition of subproblems.

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