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ON SEQUENTIAL HEURISTIC METHODS FOR THE MAXIMUM INDEPENDENT SET PROBLEM

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Abstract

We consider sequential heuristics methods for the Maximum Independent Set (MIS) problem. Three classical algorithms, VO [11], MIN [12], or MAX [6], are revisited. We combine Algorithm MIN with the α-redundant vertex technique [3]. Induced forbidden subgraph sets, under which the algorithms give maximum independent sets, are described. The Caro-Wei bound [4, 14] is verified and performance of the algorithms on some special graphs is considered.

Keywords: maximum independent set, heuristic, MIN, MAX, VO, vertex ordering.

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