

The modification of genetic algorithms for solving the balanced location problem

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In this paper is described the modification of the existing evolutionary approach for Discrete Ordered Median Problem (DOMP), in order to solve the Balanced Location Problem (LOBA). Described approach, named HGA1, includes a hybrid of Genetic Algorithm (GA) and a well-known Fast Interchange Heuristic (FIH). HGA1 uses binary encoding schema. Also, new genetic operators that keep the feasibility of individuals are proposed. In proposed method, caching GA technique was integrated with the GFI heuristic to improve computational performance. The algorithm is tested on standard instances from the literature and on large-scale instances, up to 1000 potential facilities and clients, which is generated by generator described in [5]. The obtained results are also compared with the existing heuristic from the literature.

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