

Comparison of Decisions Quality of Heuristic Methods Based on Modifying Operations in the Graph Shortest Path Problem

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The article deals with the problem of analysis of effectiveness of the heuristic methods based on modifying the earlier found decisions in the test problem of getting the shortest path in graph. The article briefly describes the selected group of methods used to solve the problem. The methodology of experimental comparison for estimation the quality of solutions based on the performing of computational experiments with samples of graphs with pseudo-random structure using the BOINC platform is considered. It also shows description of obtained experimental results which allow to identify the areas of the preferable usage of selected subset of methods depending on the size of the problem and power of constraints. It is shown that the particle swarm optimization, random walks, simulated annealing and bee colony methods are ineffective in the selected problem and significantly inferior to the quality of solutions that are provided by ant colony optimization method and genetic algorithms.