

Izvleček

Naslov: Optimizacija razvozov

Problem razvoza je problem, kjer iščemo rešitev, kako do n strank z m vozili najceneje prepeljati določeno količino blaga. Danes je to eden izmed najbolj preučevanih problemov kombinatorične optimizacije. Problem razvoza je NP-težek problem, kar med drugim pomeni, da zanj (zaenkrat še) ne poznamo algoritma, rešljivega v polinomskem času.

V prvem poglavju najprej opišemo osnovne pojme iz teorije grafov. V drugem poglavju spoznamo osnovne modele Problema razvoza. V tretjem poglavju predstavimo heuristike. Četrto poglavje pa posvetimo metaheuristikam.

Math. Subj. Class. (MSC 2010): 68R10, 90C27, 90C59

Ključne besede: problem razvoza, heuristike, metaheuristike, optimizacija, algoritem, NP-težki problemi

Abstract

Title: Vehicle Routing Problem

In Vehicle Routing Problem the objective is to design a set of minimum-cost vehicle routes for a fleet of vehicles that services a set of customers with known demands. It is one of the most studied problems of combinatorial optimization. It belongs to a class of NP-hard problems, which means that a polynomial time algorithm that could solve a problem cannot (yet) be constructed.

In Section 1 some basics relating to the graph theory are given. In Section 2 an overview of Vehicle routing problems is discussed. Section 3 contains description of heuristics. Metaheuristics are presented in Section 4.

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Keywords: vehicle routing problem, heuristics, metaheuristics, optimization, algorithm, NP-hard problems

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