

Povzetek

V diplomskem delu predstavimo problem iskanja negativnega cikla v usmerjenem uteženem grafu. Algoritem je kombinacija problema najkrajših poti in strategij odkrivanja negativnih ciklov. Pri tem obravnavamo algoritme, ki učinkovito rešijo to nalogo. Vsak od teh algoritmov lahko uporablja različne strategije pri odkrivanju negativnih ciklov. Nekatere izmed njih so učinkovite, druge pa v praksi neuporabne. Poskušamo najti najboljšo kombinacijo teh algoritmov in strategij.

Abstract

We study the problem of finding a negative cycle in a network. An algorithm for the negative cycle problem combines a shortest path algorithm and a cycle detection strategy. We survey cycle detection strategies, study various combinations of shortest path algorithms and cycle detection strategies and try to find the best combinations.

Ključne besede: graf, algoritem, negativni cikel, Bellman-Fordov algoritem, metoda označitve

Key words: graph, algorithm, negative cycle, Bellman-Ford algorithm, labeling method

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