

Backtracking Optimizationa Branch and Bound

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Centrul Infogym Iasi

Computer Science - Algorithms
11-12 Classes
Advanced Course
Subtitle

Content

Introduction

Backtracking

Branch and bound optimizations in Knapsack

Practice Problems

Introduction

backtracking

Generate all solutions

- check if solution is correct

Wht can it be optimized?

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- when current sum + heuristic is smaller than best \rightarrow stop
- heuristic for second part: greedy knapsack
- heuristic for initial solution: greedy knapsack
- sort objects greedy
- stop after x seconds

Practice Problems



Infoarena Rucsac <https://infoarena.ro/problema/rucsac>



Codeforces Round 44 D - Safe

<https://codeforces.com/contest/47/problem/D>



abc 325 F

https://atcoder.jp/contests/abc325/tasks/abc325_f



keidei <https://kilonova.ro/problems/533>

<https://acm.timus.ru/problem.aspx?space=1&num=1439>