Combinatorial Algorithms

RM35KOA

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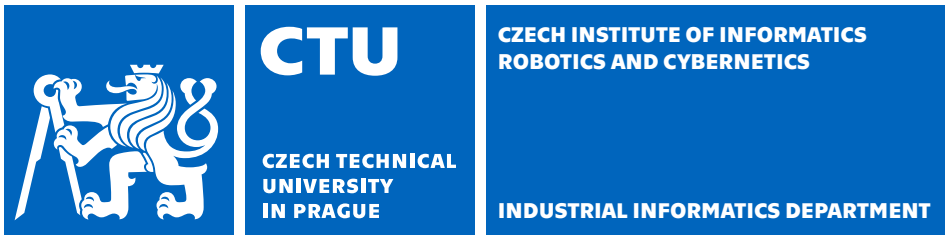
Introduction of Basic Terms, Example Applications
week 1
17. 2. - 23. 2. 2025



Grading System

To get an assessment, the following requirements have to be met:

- obtain at least **30 from 50 points**
- successfully solve all homework assignments

How to earn points:

- 20 points (10 point for each) for theoretical tests I, II (written at the lectures)
- 10 points for a semester project
- 20 points for homework assignments (there will be 4 of them)
  (5 points for each assignment if submitted successfully before the deadline)

For more information, please check the course website:
`https://cw.fel.cvut.cz/b232/courses/rm35koa/start`

Homeworks

- homework can be coded in **Python** or C++
- each homework (the source code) must be handed into BRUTE `https://cw.felk.cvut.cz/brute`) with a soft deadline specified in BRUTE
- homeworks are graded automatically by the BRUTE
- there is 1 penalty point for each commenced week until the homework is uploaded successfully (you can't get less than 0 points for the homework)
- check `https://cw.fel.cvut.cz/b242/courses/rm35koa/upload_system` for technical requirements on the submitted source code

Semester Project

Each student chooses from the following two options:

1. Cocontest:
   - Students participating in the contest implement a solver for one specific combinatorial optimization problem.
2. Research on a chosen topic:
   - A student chooses a non-trivial problem from the combinatorial optimization area on which they will work during the semester. The lab teacher must approve the topic. **Care and good individual work are expected.**

If a student wishes to choose Research on a chosen topic, they will email their lab teacher with the selected topic by **the deadline of 7. 3. 2025.**

Combinatorial Optimization Contest 2025

- optimization competition
  - single real-life optimization problem
  - you provide only code with your solution; no report needed
  - solutions are evaluated by BRUTE
  - grading comprises both the ability to solve a set of basic instances and the rating among the other students on harder instances
  - computation time given for the solver is bounded
- past contests' **"Hall of Fame"**
  - **2024 winner: Viacheslav Larionov**
  - 2023 winner: Šimon Zvára
  - 2022 winner: Jiří Němeček
  - 2021 winner: Karolína Machová
  - 2020 winner: Václav Voráček
  - 2019 winner: Pavel Gramovich
  - 2018 winner: Lukáš Hejl
  - 2017 winner: Ondřej Benedikt
  - 2016 winner: Vladimír Kunc

Research on Chosen Topic

- students can solve a problem for some company, project, diploma thesis etc.
- the assignment has two parts: a written report and the implementation
- submission is divided into 3 parts constrained by deadlines
  - 1 penalty point for the late delivery (for each part)
- written document is between 4 and 8 pages
- the evaluation is performed by the student's lab teacher; fulfilment of formal requirements and the work quality is evaluated

For more information about what we are doing, our projects, thesis topics, etc., please visit:

`http://industrialinformatics.fel.cvut.cz/`

`https://www.facebook.com/IIRC.CVUT/`

. . . or write to us an email!