Project 2023:

Assigning rooms to lectures

- list of courses taught in a given day
- list of rooms available with a capacity
- for each course, a list of students attending it

assign one room for each lecture

Constraints: – the room needs to be sufficiently large
(may have some flexibility)

– one room cannot hold 2 lectures that take place simultaneously

Objective function: minimize the travel distance of each student

Sum the travel distance of every student

1) Write an optimization model that solves the problem

(if needed you may make some constraints softer if needed)

Solve it with a commercial software

- Gurobi (free for academics)
- Cplex (free ———)
- Xpress (———)
- Highs (free)
- ~~GLPK~~
- ~~CBC~~

Model it with

Julia / JuMP

Python / Pyomo (library to model problems)

Gurobipy

Then: Write a fast heuristic to solve the problem and provide a solution that you compare with the exact method

Groups of 1 or 2

Deadline: 15th of May for the report

(3 pages max with
- a human-readable model
- short description of the heuristic)

17th of May: oral "presentation"
(no formal presentation)

Results in the presentation