

## 1 Description

Your program is supposed to help you with scheduling of patients. Create a patient class and a doctor class. Have doctors that can handle multiple patients and design a scheduling algorithm which assigns patients to a doctor. Every patient requires a different treatment which can vary in the amount of time that is required from the doctor. The scheduling algorithm needs to satisfy constraints: A doctor only works from 9am to 5pm. In addition, patients prefer to be assigned to the same doctor for consecutive appointments in case it is possible. To test your scheduling algorithm, you will design a simulator that creates random patients and doctors and figures out the appointment schedule. Finally, you will have to visualize the result of your scheduling algorithm.

## 2 Work plan

The work consists of the following units:

- ✓ Implementation of patients and doctors classes, and a simulation program that relies on user input to create a specified amount of patients and doctors and calls a dummy scheduling algorithm that always assign to just the first doctor found to create an appointment schedule.
- ✓ The implementation of a scheduling algorithm that satisfies the working hours constraint for doctors and assigns the same doctor to a patient for consecutive visits.
- ✓ Functionality that allows to print a schedule for a given doctor and given date provided by the application user after the scheduling algorithm has run.
- ◇ Add support for vacation days for doctors in your scheduling algorithm. In order to make sure that a patient still gets an appointment in a reasonable time, make sure that if he would have to wait for more than 10 days for his doctor to return, he is assigned to someone else instead.
- ◇ Add the ability to save the schedule for a month for all doctors visualized as a HTML file which can be displayed in the browser.

## 3 Scope

The project counts as completed if the system can be demonstrated implementing the functionality of all ✓-items. The ◇-items are optional items for extra points.