

## 1 Class Inheritance (5P)

Create classes `Person`, `Student`, and `Professor`, that have the common fields `firstName` and `lastName`, which should be set in the constructor, and the (`java.util.List`) list valued fields `teachers` and `students` respectively. `java.util.List` is an interface, so what does that mean for object creation?

Implement the classes according to the guidelines from the lectures, with the obvious class inheritance.

Override the `public String toString()` method from the `Object` class to print the full name instead. Austrian (and some German) professors insist on the right prefix in front of the name.

Can you reuse functionality? (see if you can find out what the keyword `super` can do).

## 2 Project Setup (3P)

Create a maven project, add the logging framework as dependency, and write unit tests to ensure that your code works correctly.

## 3 Adding Methods (7P)

Create methods `void addStudent(Student s)` and `boolean removeStudent(Student s)` in the `Professor` class. Make sure that if `S` is student of `P`, then `P` is teacher of `S`, for all students and professors, by having analogous methods `addProfessor(Professor p)` and `boolean removeProfessor(Professor p)` in the `Student` class. `removeStudent` should return `false` in case the given student can not be removed, for whatsoever reason (this should be considered an error).

Write unit tests (in advance, preferably) to ensure that your code works correctly.

Do appropriate error checking where necessary and log errors if they occur with the logging framework. In addition, add *debug* logging statements when adding and removing students.