Project 4 – Exam

An oral exam is managed by N teachers and is attended by students. The number of students is such that there is always one that needs to be examined. Students attending the exam need to answer N questions to complete the exam. Each student will take *t* seconds to answer one question, where *t* is a random variable to be described later. Each teacher can examine one student and ask one question *at a time*. Teachers can manage the exam using one of the following two methods.

1. *One student per teacher*, where each teacher asks a sequence of N questions to one student. After a student answers the N-th question, it leaves the system and a new one is examined by the teacher.
2. *Pipelined*: teachers are sorted and asks one question each. After a student answers a question, it will move to the next teacher. The first teacher examines a new student as soon as the latter is not asking a question. A student exits the system as soon as it answers the N-th question.

The *examination time* is defined as the time a student takes to answer the N questions.
Measure at least the examination time for various values of N for both methods, and compare the results.

At least the following two scenarios have to be evaluated:

- Uniform distribution of *t*
- Lognormal distribution of *t*

In all cases, it is up to the team to calibrate the scenarios so that meaningful results are obtained.

Project deliverables:

a) Documentation (according to the standards set during the lectures)
b) Simulator code
c) Presentation (up to 10 slides maximum)