Term project - Mock interview sessions

1. Project Outline

The goal of the project is to let you get ready for job interviews. Since this is a practice for the real interview, you will have a chance to study the problem before the interview. The interviewer pretends that he/she does not know that you already know the problem.

Each of you will need to solve the assigned problem and submit your solution before the interview. Afterwards you will have an interview session online to explain your approach to the problem.

The interviewer will cast you the problem, and see how you solve and explain the problem to the interviewer. There may be additional questions regarding the problem.

NOTE Due to current circumstances, the interview will be held 1:1 online with the processor face-to-face. The video shall be recorded and may be uploaded to class after the interview.

2. Interview session

Suppose you are having an interview for a job. The company wants to know how skillfull the applicant is, and they will ask questions in order to figure it out. You will be participated as an interviewee.

The interview session will be held as the follows:

- The interviewer will ask you a problem and request to solve it. Since this is a mock interview, you will be given the problem beforehand.
- You will show how you **develop** the solution of the problem. The interviewer does not expect you to give the right answer right away. His role is to lead you to a satisfiable solution together, and will give you hints and questions along the way. Your job is to demonstrate your approach until you reach the answer. The interviewer will investigate the process how you approach to the answer.

- The interviewer may ask you further questions, or request different approaches regarding the problem.

For the interview, the interviewee must prepare the followings:

- A webcam to see face to face

- Some methods to explain/demonstrate your solution. It may be one of;

    - A whiteboard and a marker
    - A tablet and a touch pen
    - Papers and pen

    Directly using an editor is not recommended, as it limits the methods of explaination only to text.

Once all the reports are submitted, each students will schedule an online interview session with the professor (more on this will be posted later).

3. Problems

While some problems are based on algorithms studied during the lecture, some will be actual programming problems used in real job interviews.

Therefore you will be given two types of problems for the report, **type A** and **type B**. You need to provide your work for both problems in the report.

During the interview session, the interviewer may also request you to explain your answers for the **homework assignments** you have done during the lecture.

Problem	in report	during interview
Homework assignment	X	O
Type A - programming problem	O	O
Type B - algorithm problem	O	O

Specific problems for each of the students will be given in a separate post.

Some example problems might be;

"Given a text sentence, how would you count the numbers of words in the sentence?

"If you are making a map application, what would be the best way to answer user queries to reach from point A to point B?"

"How can you build an efficient hash map for postal codes in Korea?"

"How would you compute a matrix multiplication? What is the time complexity, and how can you enhance it?"

4. Report submission

You must submit your problems and the approaches for the solution before the interview session. Your work will be examined and afterwards be scheduled for the online interview session.

- You should submit a report containing:
    1. problem description
    2. description of the algorithm strategy in natural language.
    3. pseudocode for the algorithm
    4. performance analysis for your algorithm
    5. Any further answers the problem has requested for

As the submission needs to be finished before starting the interview, it is due to 22nd of May (5/22). We will have interviews during the first weeks of June.

5. Grading

- You will be graded on the submission work, and your participations during the interview.
- If you have left fundamental information during your explanation, there will be additional questsions and the answers to it will also be graded.
- The interview session is to let you get accustomed to the actual job interview. Questions outside the domain of coursework won't effect criticialy for your grades.