

Exam DM510 Operating Systems (2009)

Time and Place

Time: Tuesday, June 16, 2007.

Place: The exam takes place in IMADA's seminar room.

In the secretaries' office, you can sign up for a specific slot in the sequence of students to be examined on this day. A list is available. Registration ends June 2nd, 4:00pm. The starting time for the first examination is 9:00am.

Even though the expected total examination time per student is 20 minutes (see below), it is not possible to calculate the exact examination time from the placement on the list, since students earlier on the list may not show up. Thus, students are expected to show up plenty early. In principle, all students who are taking the exam on a particular date are supposed to show up when the examination starts, i.e., at the time the first student is scheduled. This is partly because of the way external examiners are paid, which is by the number of students who show up for examination. For this particular exam, we do not expect many no-shows, so showing up one hour before the estimated time of the exam should be safe.

Procedure

The exam is in English. When it is your turn for examination, you will draw a question. Note that you have no preparation time. The list of questions can be found below. Then the actual exam takes place. This part lasts approximately 20-22 minutes. You should start by presenting material related to the question you drew. Aim for a reasonable high pace and focus on the most interesting material related to the question. You are not supposed to use note material, textbooks, transparencies, computer, etc.

We, the examiner and the censor, will supplement with specific questions when appropriate, and after a while, we will end the discussion of the exam question that you drew and turn to material from other parts of the curriculum. Note that all of this as well as discussion between examiner and censor about the grade is included in the 25 minutes, so do not count on more than 8-10 minutes for your own presentation.

Some of the questions below are very broad, so you must select the material you choose to cover. You will of course also be evaluated based on your selection of material. If you only present the simplest material, you limit the grade you can obtain. On the other hand, a good presentation of the simple material is better than a very poor presentation of the harder material. We might of course still ask you questions about material that you have decided to skip.

Curriculum

The curriculum consists of two parts. i.) From the course book (Abraham Silberschatz, Peter Baer Galvin, and Greg Gagne: Operating Systems Concepts with Java. 8th edition. US edition) the curriculum includes basically Chapters 1-18 omitting the exercises and projects at the end of each chapter and omitting Chapter 6.9. ii.) In addition the curriculum contains the text of the required assignments and the Weekly Notes.

Questions

- Operating-System Structures (Chapter 2)
- Processes and Threads with a focus on Processes (Chapter 3 and 4)
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- CPU Scheduling (Chapter 5)
- Process Synchronization (Chapter 6)
- Deadlocks (Chapter 7)
- Main Memory (Chapter 8)
- Virtual Memory (Chapter 9)
- File-System Interface (Chapter 10)
- File-System Implementation (Chapter 11)
- Mass-Storage Structure and I/O Systems (Chapters 12 and 13)
- Protection (Chapter 14)
- Security (Chapter 15)
- Distributed System Structures (Chapter 16)
- Distributed File Systems (including AFS, Chapter 17)
- Distributed Coordination (Chapter 18)