Midterm Review

Students who got at least 74 points in quiz1 are waived from material covered by the quiz.

cs340 – Midterm Review

The material required for the midterm is contained in the **Web and LectureNotes** and in the **Textbook**.

Read: Web and Lecture Notes, Chapter1

Introduced concepts:

Operating System
Batch processing systems
Multiprogramming (multitasking) systems
Multiprocessing systems
Time-Sharing systems
Real-Time systems
Spooling Concept

In a few lines you should be able to discuss (describe) any of the above topics.

Read: Web and Lecture Notes

Introduced concepts:

Starting a Computer
Interrupts
Dual-Mode
Privileged Instructions

You should be able to discuss (describe) any of the above topics or answer related questions.

Read: Web and Lecture Notes

Topics:

Operating System Components
Command Interpreter System Program
System Calls
Singletasking system (MS-DOS), TSR
Multitasking System (UNIX)
Modern Operating Systems Architecture

You should be able to discuss (describe) any of the above topics or answer related questions.

Read: Web and Lecture Notes
Process Control Block
Interrupting a process: the topic was discussed several times considering different aspects (dual mode, process control block, context switch).
Mode Switch and Full Context Switch
Process States (the meaning of each of the states)
Process Transitions
(What are the possible transitions out of and into a specific state?
What is the operation executed during the transition, what is the reason for having such a transition?)
State Diagram (the one covered in class)
Operation on Processes

(you should be able to describe a specific operation, how it is done, and the purpose of it)

Synchronization will weight at least 60% of the exam.

Processes Synchronization
Important Topics:
- **Critical Section** problem
- **Constraints on acceptable solutions to CS problem**
- (two process) **Software Solutions**
Peterson Solution: - you need to be able to explain how each of the constraints is respected.

Synchronization Hardware
Test and Set
Mutual Exclusion implementation with **Test-and-Set**

Note: In the midterm, examples of concurrent execution codes will be given.
You should be able to discuss if the requirements of the CS problem are satisfied.
For full credit your argument has to be correct, complete and clear.

NOTE:
In case that you have a True/False question:
If you believe that the statement is True, just mark it as True.
If you believe that the statement is False, give the right answer or explain why it is false.

Basic Unix questions based on the given homework, Lecture notes and Unix tutorial.

Good luck!!

Note: students that are caught cheating will fail the course and will be reported to the Chairman and the Dean.