Instructor: Dr.Hanh Pham

REVIEW for EXAM - 01

1. Contents/Scope to be covered:

Lecture #1 to #8

2. How to prepare:

Read the textbook. Review my lecture slides posted on our website. Pay special attention to the summary page (usually page #3) in each lecture note which lists important keywords and questions.

3. Format:

There will be 10-20 questions, some are essays, drawing diagrams, or multiple-choice(see below).

Examples of multiple-choice questions:

1) What is the most important difference between the Main memory and the Secondary memory ?

a) access to the processor
b) reliability in using the CPU
c) speed in running programs
d) scalability of the memory

answer = a

2) Which statement from the following statements about "preemptive" and “non-preemptive” scheduling is true ?

a) In "preemptive" scheduling most of processes are I/O bounded
b) In "non-preemptive" scheduling the CPU keeps the assigned process unless it finishes or switches to the ready state
c) In "preemptive" scheduling the I/O jobs are interrupted
d) In "non-preemptive" scheduling the CPU keeps the assigned process unless it finishes or waits for an I/O job done

answer = d

3) A computer has a CPU, a monitor, a keyboard, and a running program. How many device queues are there (the OS will create) in the system ?

a) one (for all)
b) two
c) three
d) four (a queue for each)

answer = b

Examples of essay questions:

4) List the main computer hardware components and describe their functions.

Answer:
-CPU/processor: for executing instructions
-Memory: for storing processes and their data
-I/O devices: for inputting/outputting information for computer/programs

5) What is bootstrap program ?

Answer:
It's a program that's a part of OS which help to initialize hardware devices, set-up and starts the system.

6) Given information about processes:

Process	Arrival Time	Burst Time
P_1	0.0	6
P_2	2.0	8
P_3	4.0	7
P_4	5.0	3

Define the CPU schedule (in Gant chart) for these processes using SJF method and calculate the average waiting time.

Answer:

P1	P4	P3	P2	
0	6	9	16	24

- Total Waiting time = P1(0-0)+P2(16-2)+P3(9-4)+P4(6-5) = 0+14+5+1 = 20
- Average waiting time = 20/4 = 5

Example of draw-diagrams questions:

7) Draw a diagram to show the Storage-Device Hierarchy:
(page 2.17)