Mid Term, written by Kai Tian

Question1:

1. ( 8+(8-0.4+4)+(8+4+1-1+1) )/3 = 10.53

2. ( 8+(8.6+4)+(7+1) ) /3 = 9.53

3. ( (6+8) + (1.6+4) + (0+1) )/3 = 6.87

Question2:

The short-term scheduler is also known as the CPU scheduler. There are two types of CPU scheduler: preemptive scheduling and non-preemptive scheduling.

1. Preemptive Scheduling

In Preemptive Scheduling, the tasks are mostly assigned with their priorities. Sometimes it is important to run a task with a higher priority before another lower priority task, even if the lower priority task is still running. The lower priority task holds for some time and resumes when the higher priority task finishes its execution.

1. Non-Preemptive Scheduling

In this type of scheduling method, the CPU has been allocated to a specific process. The process that keeps the CPU busy will release the CPU either by switching context or terminating. It is the only method that can be used for various hardware platforms. That's because it doesn't need special hardware (for example, a timer) like preemptive scheduling.

Question3:

**CPU utilization:** percentage of time that the CPU is busy

**Throughput:** number of processes that complete their execution per time unit

**Turnaround time:** amount of time to execute a particular process (submission time to completion time)

**Waiting time:** amount of time a process has been waiting in the ready queue

**Response time:** amount of time it takes from when a request was submitted until the first response is produced