博士班 O.S. 資格考 (9X 學年度)

1. (10%) Prove that the SJF scheduling algorithm minimizes ~~wait~~ *waiting* time. (Hint: prove through induction).

2. (5%) Propose an algorithm to solve the two-process critical section problem. (15%) Prove the correctness of your algorithm.

3. (5%) Describe the concept of FAT. (15%) Why FAT is better than the linked allocation for files?

4. (10%) What is fragmentation? (10%) Differentiate internal fragmentation from external fragmentation.

5. (10%) What is trap door? (10%) Use examples to describe the ones that may create trap doors?

6. (10%) Why registers, stacks, pids, and program counters cannot be shared among peer threads in a process?

博士班 O.S. 資格考 (9X 學年度)