

1st

1. main advantage of multiprogramming.

Answer: Multiprogramming increases CPU utilization and keeps users satisfied by organizing programs so that the CPU always has one to execute.

(通过安排作业使CPU总有一个执行作业,从而提高CPU利用率以及使用户满意.)

2. 下列哪些是特权指令? (privileged instruction)

ACDE 定时器管理, 清除内存, 关闭中断, 从用户模式切换到监督(内核)模式, (I/O控制)

3. Purpose of system calls? (系统调用)

A: System calls provide an interface to the services made available by an operating system.

提供操作系统服务接口, 使用户级进程请求系统服务, 间接使用硬件资源。(请求服务系统)

4. main advantage of the layered approach to system design? (分层法)

A: Simplicity of construction and debugging.

简化了构造和调试.

5. Describe the differences among short-term, medium-term and long-term scheduling.

A: 短期(CPU)调度: 从内存中作业选择准备执行的就绪的作业并分配CPU; 中期调度: 在分时系统中用交换的方式将进程从内存或CPU竞争中移出, 之后可重新调入内存并从中断处继续执行; 长期(作业)调度: 从缓冲池中选择要执行的进程加到内存。

主要区别在于执行频率 (frequency): 短期调度执行频率最高, 长期调度较低, 中期介于二者之间。分别通常, 为毫秒级、分钟级、二者之间。

6. Describe the actions taken by a kernel to context-switch between processes.

A: 当进行上下文切换时, 内核会将旧进程状态保存在其PCB中, 然后加载经调度而要执行的新进程的上下文。