

Chapter 1: Exercises

1. What are the three main purposes of an operating system?
2. How does the distinction between kernel mode and user mode function as a rudimentary form of protection (security) system?
3. Which of the following instructions should be privileged?
 - a. Set value of timer.
 - b. Read the clock.
 - c. Clear memory.
 - d. Issue a trap instruction.
 - e. Turn off interrupts.
 - f. Modify entries in device-status table.
 - g. Switch from user to kernel mode.
 - h. Access I/O device.
4. Give two reasons why caches are useful. What problems do they solve? What problems do they cause? If a cache can be made as large as the device for which it is caching (for instance, a cache as large as a disk), why not make it that large and eliminate the device?