

CMSC 412 Homework One

Name: _____

Read Chapters 1 and 2.

Due Tuesday Sept 9.

1. 1.4: When is it appropriate for the operating system to waste resources? Why is such a system not really wasteful?
2. 1.6: Consider the various definitions of an operating system. Consider whether the operating system should include applications such as Web browsers and mail programs. Argue both that it should and should not, and support your answers.
3. 1.19: Distinguish between the client-server and peer-to-peer models of distributed systems.
4. 1.22: What is the purpose of interrupts? What are the differences between a trap and an interrupt? Can traps be generated intentionally by a user program? If so, for what purpose?
5. 2.1: What is the purpose of system calls?
6. 2.5: What is the purpose of the command interpreter? Why is it usually separate from the kernel?
7. 2.14: Describe how you could use a statistical profile of the amount of time spent by a program executing different sections of its code. Discuss the importance of obtaining such a statistical profile.
8. 2.19: Why is the separation of mechanism and policy desirable?
9. 2.27: (altered) Run on any Linux box: `strace cp /etc/services /foo`. You may have to add to the command line to save the output. Turn in the strace output, and annotate at least four events (what was going on in different phases).