OS Ch3 Spring 2013

Name:

1. On a quad-core 2.5 GHz cpu, with a time slice of 10 milliseconds, and assuming one instruction per clock cycle, about how many instructions will be executed in a time slice?

2. Why might a process use less than an entire time slice?

3. Even though fork-exec (unix) is conceptually more complex than CreateProcess (win32), what advantages does it have?

4. What is the difference between synchronous and asynchronous communication?

5. Why should there be an upper limit to a packet size?

6. How many processes are created by the following code:

int main()

{

if (fork() == 0) {

if (fork() != 0) {

fork();

}

}

printf(“process %d exiting\n”,getpid());

return 0;

}

7. If child processes must exit before parent process, the active processes must form a tree. Are there any advantages to this?

8. Describe a few mechanisms, giving pros and cons, for interprocess communication.

9. When sharing information between different systems, what are some issues that must be addressed?

10. Cloning an entire process seems expensive for a fork(), but it typically is not. Why not?