
CMPSCI 377: Operating Systems

Homework 1: Processes and Threads

Due: September 28, 1999

VIP Students: Due one week from when you receive the assignment.

1. (10 pts) What are differentiates between a program, an executable, and a process?
2. (10 pts) What happens on a context switch? Should context switches happen frequently or infrequently? Explain your answer.
3. (20 pts) Using the *fork()*, *waitpid()*, and *kill()* system calls, write a program in which a parent creates two children. The parent then waits for the first child to complete, and kills the second when the first completes. After that, the parent exits.
4. (10pts) What are the differences between user-level threads and kernel threads? Under what circumstances is one type better than the other?