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Bero

Homework 2 CPE 434

1. Assembly, being closely linked to a systems architecture, may provide the power for greater optimization in some cases.

2. a) 6
b) The three threads inside each process still share address space and data, but not between processes.
pg. 102 c) 2 of each.
d) 6 of each.

pg. 107 3.a User level threads can be used on a Kernel that does not support threads.
a User level threads with blocking system calls halts all of the threads.
a Kernel threads do not require any new nonblocking system calls.
a Kernel threads have more complexity handling signals.

4.a I would use spinwait for access to data I know will be very quickly available.
a I would use semaphores as a synchronization tool between processes.
a I would use mutexes to lock access to a resource between threads/processes such as file I/O.
a I would use pipes for monodirectional IPC. Such as a tool that delivers data to other processes which parse it and write to file.
a I would use shared memory for multiple processes that need to share information in read/write.

5. Separate document.

pg. 107 6. Text 2;21
User space threads have one stack per process.
Kernel space threads have one stack per thread.

7. Text 2;45
a) It indicates that the philosopher i is hungry and requires a fork.