Observe and record means MULTIPLE times: no sleep, usleep(1), usleep(10), etc..

timing, mutexes, and logging

1. Start with the completed lab 6 solution.
2. Create a time_log function that writes to a FILE argument.
3. Create a generic INFO_LOG that accepts var args and writes to a file.
4. timespec, timespec_get, strftime, and, va_list, va_start, vfprintf, va_end,
5. Add time stamping to every INFO_LOG.
6. On paper, record a table of different test cases and time stamp observations.
7. Call INFO_LOG in the pthread_proc. Observe and record.
8. Demo.
9. Create and init a mutex to share between the threads in create_threads.
10. Lock after set message and unlock before get message. Observe and record.
11. Lock after set message and unlock after get message. Observe and record.
12. Lock before set message and unlock before get message. Observe and record.
13. Lock before set message and unlock after get message. Observe and record.
14. Demo.

Test Case	No Sleep	usleep(0)	usleep(1)	usleep(10)	usleep(100)
After & Before					
After & After					
Before & Before					
Before & After					