E01

Four semaphores are initialized (2 for the normal buffer and 2 for the urgent buffer), and the main thread creates and joins a producer and a consumer thread.

The producer sleeps a random value of milliseconds using `usleep` and generates a value for ms using the current_timestamp() function. 80% of times this thread will put a value in the normal buffer (waiting on a semaphore which indicates if the buffer is full and signaling on a semaphore which indicates if the buffer is empty), while in the other 20% of cases it will store the `ms` value in the urgent buffer.

The consumer, after having slept 10ms, will use `sem_trywait` to try and lock the urgent buffer. If the call is not successful, and the `errno` variable has been set to `EAGAIN`, the consumer thread will perform a read operation on the normal buffer.