Problem 3.1:

Nothing special, only need to add a lock before the loop in fcount function, and release it by unlocking after the loop.



Problem 3.2:

The idea is using 2 semaphore full, empty. The producer will wait the empty then post full, and the consumer will wait full and post the empty.

A screen shot of a computer

Description automatically generated

Problem 4.2:ss

All the code has explaned detaily, only need to fulfill it so that it can calculate the sum of a given integer array.

A number on a black background

Description automatically generated

Problem 4.3:

The logger implementation successfully manages log data in a shared buffer, handles buffer overflow, and periodically flushes the buffer to the screen. The use of mutex locks, semaphores, and separate threads ensures thread safety and efficient log management. Further development could extend the logger's functionality to handle additional events and signals, enhancing its robustness and flexibility in real-world scenarios.

