A black screen with a black background

AI-generated content may be incorrect.

Firstly, the program conducts enough 3 test: read lock test, write lock test, and read and write lock test

From the read lock test section, we can see it demonstrates that the semaphore permits multiple readers to hold the lock. The system allows several read cesses before they released.

In write lock test shows a sequence of writer acquiring and releasing the lock, implying exclusivity for each, which means only one writer can hold the lock at a time.

In read and write lock test, we can see that the writer waits for readers, a writer can not acquire the lock until all current readers have released it, while a writer holds the lock, new readers and other writers must wait.

Therefore, this proper handling of cuncurrency confirms the correct implementation of the reader-writer semaphore.