# Assignment 3: Critical Section Problem – Student Self-Assessment Checklist

Use this checklist before you submit. It will help you avoid missing points.

## Code Requirements

- ☐ My program compiles with gcc -o fname thread-solution.c -lpthread.
- ☐ I used two threads (Depositor and Withdrawer) with pthread_create() and pthread_join().
- ☐ Global shared variable balance starts at 0.
- ☐ Depositor thread deposits until it reaches 2,000,000 deposit operations total.
- ☐ Bonus rule: every time (balance % 200) == 0, Depositor adds +50 to balance, and this counts as 50 deposit operations toward its 2,000,000 limit.
- ☐ Withdrawer thread withdraws until it reaches 2,000,000 withdraw operations total.
- ☐ Neither thread exceeds its operation limit.
- ☐ I used a mutex or semaphore correctly to protect the critical section.
- ☐ My critical section does only one update at a time (no loops inside).
- ☐ Parent process waits for both threads to join before printing the final result.

## Required Code Comments

- ☐ I marked entry section, critical section, exit section, and remainder section in my code.

## Output Requirements

- ☐ Depositor reports the number of deposits it performed and the number of bonus deposits it received.
- ☐ Withdrawer reports the number of withdrawals it performed.
- ☐ Both threads report the final value of balance they observe at the end.
- ☐ Parent reports the final balance.
- ☐ The correct final balance = 0 (2M deposits − 2M withdrawals).

## Report Requirements (within the video)

- ☐ I explained how my program satisfies the 3 conditions of the critical section solution:
- ☐ - Mutual exclusion
- ☐ - Progress
- ☐ - Bounded waiting

## Video Presentation (30 pts)

- ☐ My video is at least 3 minutes long (no maximum limit).

- ☐ I explained how each thread works.
- ☐ I showed where the entry/critical/exit/remainder sections are in code.
- ☐ I explained my synchronization choice (mutex or semaphore).
- ☐ I demonstrated compilation and execution live (no cuts).
- ☐ I showed and explained any online resources or AI/chatbot logs I used.
- ☐ I reflected on debugging challenges and how I fixed them.

### Peer Review (15 pts)

- ☐ I watched another student's video.
- ☐ My comment mentioned something I learned.
- ☐ My comment asked a specific question or gave a specific suggestion.
- ☐ My comment shows I actually watched their video (not AI-generated, not generic).

If you checked everything above, you're ready to submit!