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CSC 332 Section M

Analyzing the execution traces in the original “bank.c we can see there is a race condition to getting the account balance to zero before the dad added money to the account. When the account got to zero, the two sons would keep reading and writing into the account until the dad added a balance. Also, because the sons were accessing separately, withdrawals wouldn’t be reflected correctly. The desired process to have exclusive access to the account at a time from the dad, son 1, son 2. When the account is clear, the children should wait for their father to add money to the account.

A buffer is being used to keep track of the three processes through their PID’s and kept track of the waiting of each process by incrementing wait times. Before entering the critical section, PID’s would enter the buffer. Lets say the process wanted to enter the critical section, but couldn’t, the following process would identify that those processes are waiting in the buffer and the wait time would be incremented. If the process can go into the critical section, the process will check if others are waiting to the critical process. When leaving the critical process, the buffer values holding the PID will be set to zero and this will allow other processes to enter the CS.