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CSC 33200

Operating System Lab Report Five

So we have three processes, one dad process and two son processes. With those processes, they each trying to read and overwrite the balance, the father trying to add balance, and the two sons trying to withdraw. So the balance is therefore a critical section.

To solve the issue of the critical section, we install mutexes and semaphores to make sure that when one process enter the critical section, the other processes are to wait until the process done it’s job. So by the end, the sons withdraw the money ( one at a time) when there is money. When there is no money, they wait for the father. We track the processes when they doing their runs by keeping track of the wait time of the processes that is not checking the balance. The process that has a wait time of 0 is the process that is currently working.

For N=20

* When Dad is working, Son1’s wait time is 5 , and Son2’s wait time is 5.
* When Son1 is working, Dad’s wait time is 40 , and Son2’s wait time is 40.
* When Son2 is working, Dad’s wait time is 94 , and Son1’s wait time is 94.

For N=10

* When Dad is working, Son1’s wait time is 5 , and Son2’s wait time is 5.
* When Son1 is working, Dad’s wait time is 10 , and Son2’s wait time is 10.
* When Son2 is working, Dad’s wait time is 2 , and Son1’s wait time is 2.

For N=5

* When Dad is working, Son1’s wait time is 5 , and Son2’s wait time is 5.
* When Son1 is working, Dad’s wait time is 6 , and Son2’s wait time is 6.
* When Son2 is working, Dad’s wait time is 1 , and Son1’s wait time is .

For N=15

* When Dad is working, Son1’s wait time is 5 , and Son2’s wait time is 5.
* When Son1 is working, Dad’s wait time is 51 , and Son2’s wait time is 51.
* When Son2 is working, Dad’s wait time is 15 , and Son1’s wait time is 15.

For N=25

* When Dad is working, Son1’s wait time is 5 , and Son2’s wait time is 5.
* When Son1 is working, Dad’s wait time is 760 , and Son2’s wait time is 760.
* When Son2 is working, Dad’s wait time is 506, and Son1’s wait time is 506.