

OS PROJECT : SLEEPING BARBER

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Introduction :

Sleeping barber problem is basically an inter process communication and synchronization problem because two processes access the same shared thing.

The behavior of one process, in this case, barber, is dependent on the timing of other uncontrollable events, like customer. To prevent this lack of synchronization, we make it compulsory that only one process can only access or change position at one time.

Methodology :

If there are no customers, the barber falls asleep in the chair

A customer must wake the barber if he is asleep

If a customer arrives while the barber is working, the customer leaves if all chairs are occupied and sits in an empty chair if it's available

When the barber finishes a haircut, he inspects the waiting room to see if there are any waiting customers and falls asleep if there are none.

Only customer or barber can change position at a time. For this we will use mutex (which will freeze the state of one process if the other process is changing state). Plus, semaphores will indicate state of system (using wait and signal).