Have three semaphores
They can be accessed using only two functions - wait and signal/post

- one semaphore for counting the number of customers present in the waiting room (not including the customer in the chair)
- one semaphore for indicating the status of barber: working or sleeping
- one mutex for giving the mutual exclusion to let the processes execute

If number of customers == number of chairs in the waiting rooms --> If new customers show up then they have to leave the shop.

If barber is ready, customer will go and get a haircut else the customer will wait in the waiting room.
Number of available seats in the waiting room - will decrease if more and more customers wait.

What is the initial state?

- Barber is sleeping.
- No customer is there.
- All seats are available in the waiting room.

Show Pseudocode from Wikipedia and Baeldung.

```
Barber
    Infinite loop:
        wait for customers to come in (wait on semaphore customer_ready -- decrement)
        wait for getting access to modify the number of available seats in waiting room
            (wait on semaphore modify_seats)
        increment the count of available seats in waiting room by 1.
        post semphore for getting access to modify the number of available seats in waiting room
            (unlock semaphore modify_seats)
        post semaphore -- barber_ready - make barber ready to serve

    cut hair:
    Lock the mutex?? - for putting  critical section of work which barber thread does.
```

```
Customer
    wait for getting access to modify the number of available seats in waiting room
        (wait on semaphore modify_seats)
    if one or more seats are available:
        decrement available seats count
        post semaphore - customer_ready (unlocked semaphore: means the customer is waiting
        and ready to be served by the barber)
        post semphore for getting access to modify the number of available seats in waiting
        room
        wait semaphore - barber_ready
                (customer is waiting for the barber to be ready)
        get hair cut

    else:
        post semphore for getting access to modify the number of available seats in waiting
        room
```