***SLEEPING - BARBER PROBLEM***

20PW05 : Britne Binu

20PW35: Swetha Muralidharan

**PROBLEM STATEMENT**

There is a barber shop which has one barber, one barber chair, and n chairs for waiting for customers if there are any to sit on the chair.

* If there is no customer, then the barber sleeps in his own chair.
* When a customer arrives, he has to wake up the barber.
* If there are many customers and the barber is cutting a customer’s hair, then the remaining customers either wait if there are empty chairs in the waiting room or they leave if no chairs are empty.

**SOLUTION**

The solution to this problem includes three [semaphores](https://www.geeksforgeeks.org/semaphores-operating-system/).

* First is for the customer which counts the number of customers present in the waiting room .
* Second, the barber 0 or 1 is used to tell whether the barber is idle or is working.
* Third , is to provide the mutual exclusion which is required for the process to execute

