**Sleeping Barber**

THIS PROJECT WILL BE SUBMITTED AS PARTIAL REQUIREMENT FOR THE COURSE Operating Systems IN Spring 2022.

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**GOALS :**

Sleeping barber problem is a classic [inter-process communication](https://en.wikipedia.org/wiki/Inter-process_communication) and [synchronization](https://en.wikipedia.org/wiki/Synchronization) problem that illustrates the complexities that arise when there are multiple [operating system](https://en.wikipedia.org/wiki/Operating_system) [processes](https://en.wikipedia.org/wiki/Process_(computing)).

**DESCRIPTION :**

A barbershop consists of a waiting room with n chairs, and the barber room containing the barber chair. If there are no customers to be served, the barber goes to sleep. If a customer enters the barbershop and all chairs are occupied, then the customer leaves the shop. If the barber is busy, but chairs are available, then the customer sits in one of the free chairs. If the barber is asleep, the customer wakes up the barber.

**ACTOR/SYSTEM USER(S) :**

1. SERVER
2. USER

**LIST OF FEATURES :**

1. **Dealing with race Conditions**Processes or threads that are working together may share common storage that is used to read and write, whether it is located in memory or in a shared file. Race conditions are situations where the final result of an operation on the shared data depends on which process or thread runs precisely when.
2. **Mutual Exclusion**

Ensuring that while one process or thread is performing read or write operations on shared data others are prohibited of doing the same.

1. **Critical Region**

Part of the program where the shared memory or file is accessed.

**TOOLS AND TECHNIQUES :**

THE LANGUAGE WILL BE C AND FOR IDE VS CODE WILL PRIMARILY BE USED.

**SCHEDULE :**

TO BE STORED ONE WEEK BEFORE THE FINAL EXAMS OF Spring 2022 SEMESTER.

ACCEPT

REJECT

**COURSE TEACHER: Miss Tania Iram SIGNATURE: \_\_\_\_\_\_\_\_\_\_\_**

ACCEPT

REJECT

**COURSE TEACHER: Sir Ali Shah Fatmi** **SIGNATURE: \_\_\_\_\_\_\_\_\_\_\_**