

Semaphore based solutions to Group Mutual Exclusion Problem

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Group Mutual Exclusion (GME), introduced by Joung, is a natural generalization of the classical mutual exclusion problem. In GME, when a process leaves the non-critical section it requests a “session”. Processes are allowed to be in the critical section at the same time if they have requested the same session. The goal is to develop an algorithm for the GME problem that satisfies the properties of Mutual Exclusion, Starvation Freedom, Concurrent Entry and First Come First Served (FCFS). We present some solutions to this problem using semaphores, a classical synchronization primitive.

Keywords: process synchronization, group mutual exclusion problem, semaphores