Problem Description:

Dining Philosophers Problem in OS is a classical synchronisation problem in the operating system. With the presence of more than one process and limited resources in the system the synchronisation problem arises. If one resource is shared between more than one process at the same time then it can lead to data inconsistency. According to the Dining Philosopher Problem, assume there are K philosophers seated around a circular table, each with one chopstick between them. This means, that a philosopher can eat only if he/she can pick up both the chopsticks next to

him/her. One of the adjacent followers may take up one of the chopsticks, but not both. The solution to the process synchronisation problem is Semaphores, A semaphore is an integer used in solving critical sections. The critical section is a segment of the program that allows you to access the shared variables or resources. In a critical section, an atomic action (independently running process) is needed, which means that only single process can run in that section at a time.