SEMAPHORES:

In computer science, particularly in operating systems, a semaphore is a variable or abstract data type that is used for controlling access, by multiple processes in a concurrent system such as a multiprogramming operating system.

Semaphores are commonly use for two purposes: to share a common memory space and to share access to files. Semaphores are one of the techniques for interprocess communication (IPC). The C programming language provides a set of interfaces or "functions" for managing semaphores.

They are often used to monitor and control the availability of system resources such as shared memory segments.

**MUTEX:**Short for mutual exclusion object. In computer programming, a mutex is a program object that allows multiple program threads to share the same resource, such as file access, but not simultaneously. When a program is started, a mutex is created with a unique name. After this stage, any thread that needs the resource must lock the mutex from other threads while it is using the resource. The mutex is set to unlock when the data is no longer needed or the routine is finished.