## Java Semaphores

Semaphores were the frst specifc & most primitive form of synchronization mechanism introduced in to programming languages to achieve these tasks.

Semaphore as a special kind of “lock” that has operations that allow it to be either “locked” or “unlocked”.

There are two types of Semaphores.

1. Binary (mutex)
   1. can only have the values 0 or 1.
2. General (counting)
   1. can have any value greater than 0.

**General Semaphores**

These are used to resolve the situation in which more than one process wants to execute in the critical section, simultaneously.

**Binary Semaphores**

If the value is 1, the signal operation is success, fails otherwise.

**Semaphore Operations**

1. Claim: “lock” a semaphore
2. Release: “unlock” a semaphore
3. Initialise: set an initial value for a semaphore as either “locked” or “unlocked”