

- semaphore 'S' is shared among all the processes
- we can update it by calling wait () & signal.

$$S = 1$$

wait (S)

$$\rightarrow 1 - 1 = 0 \text{ False}$$

$$S - - = 0$$

Now, again  $S = 0$  process get stuck busy waiting.

Signal (S)

$$\rightarrow S = 1$$

### Counting Semaphore :

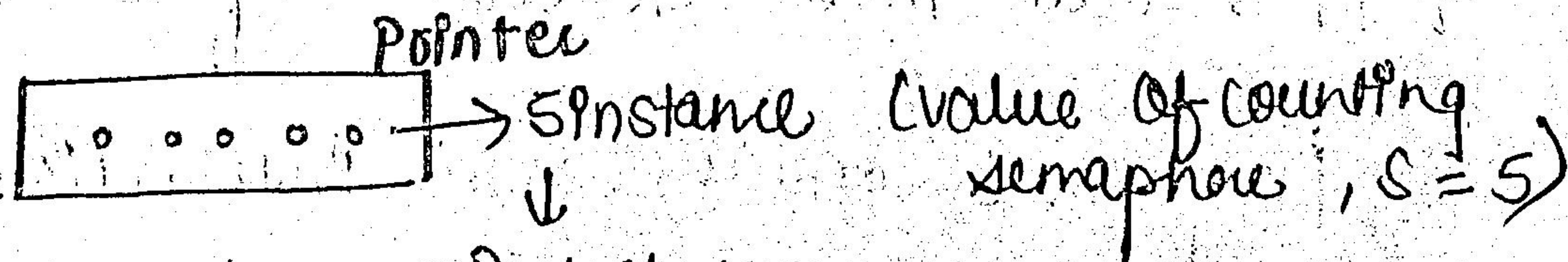
⇒  $-\infty$  to  $\infty$  (value)

⇒ negative value are used as a concept, positive value give exact value of semaphore.

→ Resources are shared among cooperative processes, we use counting semaphore.

→  $S = 5$  (Acquiring)

→ when free through the signal another process can access resources.

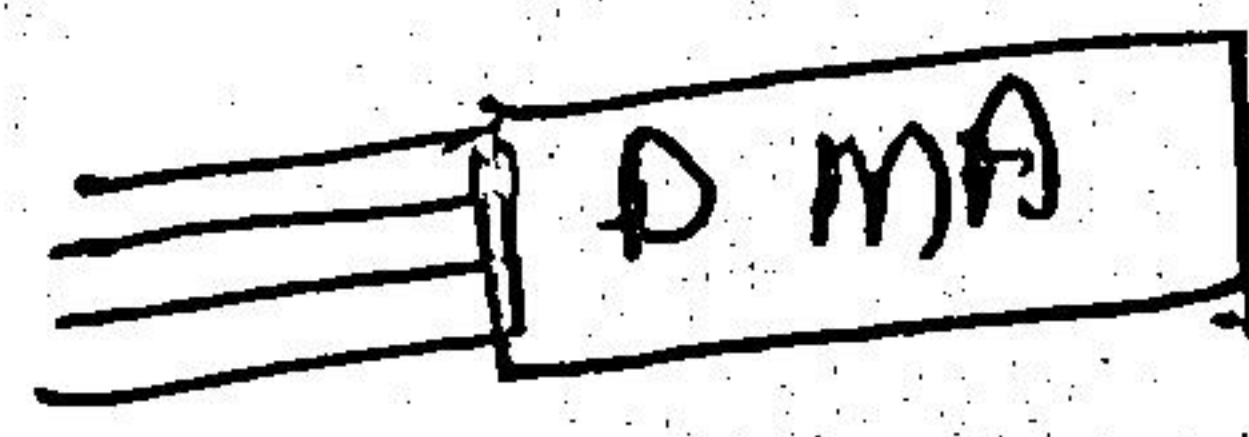


Pool of resources-

→ do {

wait (S)

4 channels {



Signal (S)

} while (true);

PE/NIC

$$\rightarrow S = 5 - 1 = 4$$

⇒ 4 channel  $S = 4$