**Interleaved concurrency**: logically simultaneous processing intervaled execution on a single processor

**Parallelism**: physically simultaneous processing

**Synchronization** serves two purposes:

* Ensure safety for shared updates

Race conditions (compétition pour l’accès aux ressources partagées)

* Coordinate actions of threads (=progress)

Deadlocks (interblocage)

Resource starvation (ressource qui n’est pas donné)

Multiple threads access shared resources simultaneously

**Safe only if** :

* All accesses have no effect on resource or
* All accesses idempotent or
* Only one access at a time

mutual exclusion = section critique