

# Four Conditions For Deadlocks

**Mutual exclusion condition** each resource can only be assigned to one process or is available

**Hold and wait condition** process holding resources can request additional

**No preemption condition** previously granted resources cannot forcibly taken away

**Circular wait condition**

- ▶ must be a circular chain of 2 or more processes
- ▶ each is waiting for resource held by next member of the chain