DEADLOCK HANDLING

Methods for Handling Deadlocks

- Deadlock handling can be done in one of three ways:

1. By using a protocol to prevent or avoid deadlocks, ensuring that the system will ***never enter a deadlocked state.***
2. Allow the system to enter a deadlocked state, detect it, and recover.
3. Ignore the problem altogether and pretend that deadlocks never occur in the system.

Methods for Handling Deadlocks

1)Prevent or avoid Deadlock

- To ensure that deadlocks never occur, the system can use either a deadlock prevention or a deadlock-avoidance scheme.
- **Deadlock prevention provides a** set of methods to ensure that at least one of the necessary conditions for deadlock cannot hold.
- **Deadlock avoidance requires that the operating system be given additional** information in advance concerning which resources a process will request and use during its lifetime.
- With this additional knowledge, the operating system can decide for each request whether or not the process should wait.

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2) Detect and recover from deadlock.

- The system can provide an algorithm that examines the state of the system to determine whether a deadlock has occurred and an algorithm to recover from the deadlock.

3)Ignore the problem altogether and pretend that deadlocks never occur in the system.

- In the absence of algorithms to detect and recover from deadlocks, system is in a deadlocked state yet has no way of recognizing what has happened.
- Eventually, the system will stop functioning and will need to be restarted manually.