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Subject & Section: CCOPSYSL – COM232
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Final Project Topic: Deadlock Detection and Prevention

Description:

In this project, you will simulate deadlock detection and prevention algorithms used by operating systems to handle situations where processes get stuck waiting for resources in a cyclic manner.

Key Concepts to Implement:

1. **Deadlock Detection** – Implement algorithms like Banker's Algorithm or resource allocation graph to detect deadlock situations in a system.
2. **Deadlock Prevention** – Implement techniques like avoiding circular wait conditions or preemptive resource allocation to prevent deadlocks.

Objective:

- Create a system where processes request resources and may enter a deadlock state.
- Implement algorithms to detect and recover from deadlocks in a simulated multi-process system.
- Demonstrate how the system can avoid deadlocks using preventive measures.