OS LAB MINI PROJECT SYNOPSIS

Project Title: Deadlock Detection in Database Transactions.

Problem Statement: Deadlocks in database transactions pose a significant challenge to the reliability and efficiency of database management systems. A deadlock occurs when multiple transactions are unable to proceed due to a circular dependency of resource allocation, leading to a standstill in the system. The aim of this project is to study, simulate, and analyze the deadlock detection process within the context of database transactions.

Abstract: This project investigates deadlock detection within database transactions, exploring its causes and algorithmic principles. By simulating the detection process, it showcases practical applications and illuminates the inner workings of the resource allocation graph. Real-world database management systems' strategies are analyzed, along with case studies that highlight the impact of deadlock incidents and their resolution. The project's outcomes include a comprehensive report, a simulation model,contributing to a deeper understanding of deadlock management in modern databases.

Outcomes: Enhanced understanding of deadlock detection principles, development of a practical simulation model, insights into real-world database deadlock strategies, illustrated case studies, comprehensive documentation, educational materials, contribution to operating system knowledge, improved presentation and communication skills, and hands-on implementation experience.