Assignment 2:

Develop a case study analysing the implementation of SDLC phases in a real-world engineering project. Evaluate how Requirement Gathering, Design, Implementation, Testing, Deployment, and Maintenance contribute to project outcomes.

Case Study: Implementing an E-commerce Platform

1. Requirement Gathering:A company specializing in retail wants to establish an online presence to expand its customer base. The requirement gathering phase involves extensive discussions with stakeholders to understand their needs and expectations. Key requirements include user-friendly interface, secure payment gateway, inventory management, and scalability to accommodate future growth.2. Design:Based on the gathered requirements, the design phase begins. This involves creating system architecture, database design, wireframes, and user interface mockups. The team focuses on designing a platform that not only meets current needs but also anticipates future enhancements and scalability requirements.3. Implementation:With the design finalized, the development team starts coding the platform according to the specifications outlined in the design phase. They adhere to coding standards, employ best practices, and use appropriate technologies to ensure efficient implementation. Regular code reviews and version control are employed to maintain code quality and traceability.4. Testing:The testing phase is crucial to ensure the developed system functions as expected and meets the predefined requirements. Various types of testing are conducted, including unit testing, integration testing, system testing, and user acceptance testing (UAT). Test cases are designed to cover all functionalities and edge cases. Any issues identified are documented, addressed, and retested until satisfactory results are achieved.5. Deployment:Once the testing phase is complete and the system is deemed stable, it's ready for deployment. Deployment involves releasing the platform to the production environment, configuring servers, setting up databases, and ensuring all necessary resources are in place. A phased rollout strategy may be employed to minimize disruption to existing operations.6. Maintenance:Post-deployment, the maintenance phase begins. This involves ongoing support, monitoring, and optimization of the platform. Regular updates, patches, and bug fixes are released to address any issues that arise and improve system performance. Feedback from users is collected and used to prioritize future enhancements and upgrades.