Assignment 7

The list of topics for the last assignment has included:
- How do we maintain transactional consistency in a distributed system?
- How do we ensure that transactions are isolated and durable?

Consider the following scenario:

A distributed system consists of three nodes (A, B, C) connected by a network. Each node maintains a database and can communicate with other nodes. The system supports multi-threaded transactions, allowing multiple transactions to run concurrently. When a transaction is executed, it updates data across multiple nodes.

No. the power to learn. 1 point

1. What is the state of the system after executing transaction T3? (1 point)

2. Which nodes are affected by transaction T2? (1 point)

3. What is the potential for deadlocks in the system? (1 point)

4. How can we ensure atomicity in a distributed transaction? (1 point)

5. What is the role of the network in maintaining consistency? (1 point)

6. How do we handle failures in a distributed system to ensure durability? (1 point)

7. What is the significance of isolation in ensuring transactional consistency? (1 point)

8. How can we ensure serendipity in a distributed system? (1 point)

9. What is the relationship between transactions and concurrency control? (1 point)

10. How do we implement the two-phase commit protocol in a distributed system? (1 point)

11. What is the role of the network in maintaining consistency? (1 point)

12. How can we ensure atomicity in a distributed transaction? (1 point)

13. What is the role of the network in maintaining consistency? (1 point)

14. How can we ensure serendipity in a distributed system? (1 point)

15. What is the relationship between transactions and concurrency control? (1 point)

16. How do we implement the two-phase commit protocol in a distributed system? (1 point)