Lab7PartD.md 2025-07-29

Explanation

By default, relationships in JPA like @OneToMany, @ManyToOne, etc., are **lazy-loaded** unless you specify fetch = FetchType. EAGER. Lazy loading means that related entities are not loaded from the database until you access them.

Problem Without @Transactional:

Without an active transaction:

- When you fetch an entity (e.g., Customer) with lazy-loaded associations (e.g., accounts), and then the persistence context is closed (which happens at the end of the method call if there is no transaction),
- Any attempt to access a method outside that method results in a **LazyInitializationException** because the entity manager is already closed and can no longer fetch the associated data.

With @Transactional:

- When the AccountService class is annotated with @Transactional, Spring ensures that for every method:
 - A transaction is started.
 - A **Hibernate session (persistence context)** is opened and remains alive for the **entire** method execution.
- As long as you are inside that method, lazy-loaded properties can be accessed, because the session is still active.
- This makes it safe to use lazy-loading without forcing eager-loading.