UNIVERSITÄT DES SAARLANDES
Fachrichtung 6.2 – Informatik
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7. Übung zur Vorlesung *Transaktionsorientierte Informationssysteme* im Sommersemester 2000

7.1. Discuss to what extent lock escalation may incur deadlocks or livelocks.

7.2. Discuss if and under which conditions a form of lock de-escalation could make sense. De-escalation would essentially be the opposite of lock escalation, converting one (or a few) coarse-grained lock(s) into several fine-grained locks while a transaction is executing.

7.3. Give examples for schedules that fall into the following five isolation-level classes (but not into the next larger, surrounding class): not even read uncommitted, read uncommitted, read committed, repeatable read, serializability.

7.4. Give an example for a snapshot-isolated history violating the consistency of the persistent data. Explain what kinds of inconsistencies can arise.

7.5. Design a concurrency control protocol that can guarantee snapshot isolation (and can indeed generate all snapshot-isolated histories).

7.6. Give examples for showing that MVSR and snapshot isolation are incompatible classes of histories, i.e., neither one of them is included in the other.