

Week 12 Exercises: Transactions

Exercise 12.1. Consider a database with objects X and Y and assume that there are two transactions T_1 and T_2 . Transaction T_1 reads object X , and then writes objects Y and X . Transaction T_2 reads object X , then reads object X once more, and finally writes objects X and Y (i.e. $T_1: R(X), W(Y), W(X), C; T_2: R(X), R(X), W(X), W(Y), C$)

1. Give an example schedule with actions of transactions T_1 and T_2 on objects X and Y that results in a write-read conflict.
2. Give an example schedule with actions of transactions T_1 and T_2 on objects X and Y that results in a read-write conflict.
3. Give an example schedule with actions of transactions T_1 and T_2 on objects X and Y that results in a write-write conflict.
4. For each of the three schedules, show that Strict 2PL disallows the schedule.