**Ispitni prasanja**

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| **2023**  a) [**10 points**] Consider the following transactions T1 and T2 that read and write tuples A, B, and C.  T1: R(B), W(C), R(C)  T2: R(A), W(B), W(C)  For each of the following schedules, please answer whether it is serializable, possible in two phase locking (2PL), and in strict 2PL. We assume a transaction locks a record when it accesses that record for the first time. c1 and c2 mean the commit of T1 and T2, respectively.  Schedule 1: T1.R(B), T1.W(C), T2.R(A), T2.W(B) T2.W(C), c2, T1.R(C), c1  Schedule 2: T1.R(B), T1.W(C), T2.R(A), T2.W(B), T1.R(C), c1, T2.W(C), c2  Schedule 3: T2.R(A), T1.R(B), T1.W(C), T1.R(C), c1, T2.W(B), T2.W(C), c2  Schedule 4: T2.R(A), T2.W(B), T1.R(B), T2.W(C), c2, T1.W(C), T1.R(C), c1  Please fill in Y/N in the following table. |  |
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| **2016** |  |
| **2020** | **Sample exam** |
| **Sample exam 2** |  |
| **Semple 3** |  |
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| **Sample 3 2006** |  |
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| * A serial schedule is one that does not interleave the actions of different transactions * A and B are equivalent schedules if, *for any database state*, the effect on DB of executing A is identical to the effect of executing B * *A* serializable schedule is a schedule that is equivalent to *some* serial execution of the transactions.   **The word “some” makes this def powerful and tricky!** |  |
|  | Each action in the TXNs *reads a value from global memory* and then *writes one back to it*  Scheduling order matters! |
| **Two actions conflict if they are part of different TXNs, involve the same variable, and at least one of them is a write**  Interleaving anomalies occur with / because of these conflicts between TXNs *(but these conflicts can occur without causing anomalies!)* | * Thus, there are three types of conflicts:   + Read-Write conflicts (RW)   + Write-Read conflicts (WR)   + Write-Write conflicts (WW) |
| **RW conflict** |  |
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A graph of a crash

Description automatically generatedA close-up of a label

Description automatically generated**A close-up of a label

Description automatically generatedA screenshot of a computer

Description automatically generated**  **A table with numbers and letters

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