Student ID: 32713339

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Unit Code: FIT2094

Applied Class No: 3

Comments for your marker:

(a)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **TIME** | **TRANS** | **ACTION** | **A** | **B** | **C** | **D** |
| **0** | **T1** | **UPDATE A** | X(T1) |  |  |  |
| **1** | **T1** | **UPDATE B** |  | X(T1) |  |  |
| **2** | **T2** | **READ C** |  |  | S(T2) |  |
| **3** | **T2** | **READ D** |  |  |  | S(T2) |
| **4** | **T3** | **UPDATE A** | T3 wait T1 |  |  |  |
| **5** | **T2** | **UPDATE C** |  |  | X(T2) |  |
| **6** | **T1** | **ROLLBACK** | X(T3) |  |  |  |
| **7** | **T3** | **UPDATE C** |  |  | T3 wait T2 |  |
| **8** | **T2** | **UPDATE B** |  | T2 wait T1 |  |  |
| **9** | **T2** | **UPDATE A** | T2 wait T3 |  |  |  |

* Does a deadlock exist in this transaction sequence?

**Answer**: Yes, a deadlock exists in this transaction sequence.

* Explain why you came to this conclusion.

**Answer**: This is because there is a loop between the transactions T2 and T3, where T3 is waiting for T2 and T2 is waiting for T3.

(b)

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **TRL ID** | **TRX NUM** | **PREV PTR** | **NEXT PTR** | **OPERATION** | **TABLE** | **ROW ID** | **ATTRIBUTE** | **BEFORE VALUE** | **AFTER VALUE** |
| 101 | 601 | Null | 102 | START | \*\*\*\* Start Transaction |  |  |  |  |
| 102 | 601 | 101 | 103 | UPDATE | PRODUCT | ‘ABC’ | PROD\_QOH | 1205 | 1206 |
| 103 | 601 | 102 | 104 | UPDATE | PART | ‘A’ | PART\_QOH | 567 | 566 |
| 104 | 601 | 103 | 105 | UPDATE | PART | ‘B’ | PART\_QOH | 98 | 97 |
| 105 | 601 | 104 | 106 | UPDATE | PART | ‘C’ | PART\_QOH | 549 | 548 |
| 106 | 601 | 5 | Null | COMMIT | \*\*\*\* End of Transaction |  |  |  |  |