Student ID: 33719047

Student Name: Venkata Shankara Sai Advait Manduva

Unit Code: FIT9132

Applied Class No:

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(T1) | X(T1) | X(T1) |  |
| **7** | **T3** | **UPDATE C** |  |  | X(T3) |  |
| **8** | **T2** | **UPDATE B** |  | X(T2) |  |  |
| **9** | **T2** | **UPDATE A** | X(T2) |  |  |  |

* Does a deadlock exist in this transaction sequence?
* Explain why you came to this conclusion.

There is a deadlock between Rollback transactions on A i.e. X(T1) and X(T3) .

X(T3) is waiting on X(T1) and X(T1) is waiting on X(T3) as both have exclusive locks on table A.

(b)

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|  |  |  |  |  |  |  |  |  |  |  |  |
|  | TRL\_ID | TRX\_NUM | PREV PTR | NEXT PTR | OPERATION | TABLE | ROW ID | ATTRIBUTE | BEFORE VALUE | AFTER VALUE |  |
|  | 101 | 601 | NULL | 102 | START | \*\*\*\*Start Trn |  |  |  |  |  |
|  | 102 | 601 | 101 | 103 | INSERT | PROD\_QOH |  | PROD\_CODE, PROD\_QOH |  | ABC,1206 |  |
|  | 103 | 601 | 102 | 104 | UPDATE | PART | 10010 | PART\_QOH | 567 | 566 |  |
|  | 104 | 601 | 103 | 105 | UPDATE | PART | 10011 | PART\_QOH | 98 | 97 |  |
|  | 105 | 601 | 104 | 106 | UPDATE | PART | 10012 | PART\_QOH | 549 | 548 |  |
|  | 106 | 601 | 105 | NULL | COMMIT | \*\*\*\*End of trn |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |