1 Candy

What does ACID stand for?
2 Candy

What is the connection between Atomicity, Isolation, and Durability with Concurrency Control, Logging?
3 Candy

WAL, LSN, Undo, Redo, physical, logical, physiological are all important terms for describing logging. What do they stand for?
2 Candy

• Which transactions will be UNDONE if a system crashes, given the following log

<table>
<thead>
<tr>
<th>BEGIN</th>
<th>BEGIN</th>
<th>WRITE A</th>
<th>WRITE B</th>
<th>COMMIT</th>
</tr>
</thead>
<tbody>
<tr>
<td>T1</td>
<td>T2</td>
<td>T1</td>
<td>T2</td>
<td>T1</td>
</tr>
</tbody>
</table>

T2
No, T1 would have to wait for lock on B.
Strict-two-phase would permit it
Strong strict would not (write A from T1 has to wait)

Schedule is serializable (outcome is the same as T2 commits before T1).
This is just a variant of the previous problem 4, animations show solution
No as it is impossible to undo operations caused by even normal aborts
Redo UNLESS

- Page is not in dirtyPgTable
- LSN < recLSN
- LSN <= pageLSN

- Yes, can be a valid state. Flush happened shortly after checkpoint
- Replay 8, 10, 11, 13