CSE Hands-On 5 20161209

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Question1: Why doesn't the database show studentB?

- Because the transaction for studentB hasn't been committed.

Question2: When the database recovers, which accounts sho...?

- The transaction for studentA and studentC should be active because both of them have been committed.
- the value of studentA shoule be 900 because the debit_account has been committed and that of studentC shoule be 3100 since it has also been committed.

Question3: Can you explain why the "DB" file does not contain a rec...

- The reason is that the there wasn't an instruction named "end 3" and the second transaction hasn't been committed, so the DB wouldn't be written into.

Question4: What do you expect the state of "DB" to be after wal-sys ...

- What I expect the state of the DB is that it shoule contains the transaction for studentA of 900 and that of studentC of 3100 because both of them have been committed, however the transaction for studentB should rollback to undo just like it didn't even exist because it hasn't been committed.

Question5: Run wal-sys again to recover the database. Examine the "DB" file...

- Yes, it is the same as what I thought before because recovery should back to the point that everything committed is all done while uncommitted is nothing.

Question6: During recovery, wal-sys reports the action_ids of those recoverab...

- In the file .py, by scaning the codes inside I can imply that Done refers to instructions which have committed before crash and Losers are those that didn't be committed before crash, winners refers to those that have already written status into Log file but hasn't been committed.

Question7: What aspect of TCP's behavior causes these white arr...

- The reason is that this action hasn't been committed, so its checkpoint didn't contain this record.

Question8: How many lines were rolled back? What is the advantage ...?

- six lines were roll back. Compared to the former 12 lines, using checkpoint can set a position that the roll back action can stop and just care about the log entry after not all, so it can accelerate the roll back action.

Question9: Does the second run of the recovery procedure (for seq...?

- Of course, it called idempotence.

Question10: Compare the action_ids of "Winners", "Losers", and "... ?

- Because the first recovery add "END action_id" to the end of the Losers so now the Losers aren't in processing but completed, so the later recovery will just ignore these content and guarantee the property called idempotence.