

Ubitname:

(1 point)

CSE 562 : Assignment 6
Due at the start of the Class on 04/23/2014

Please follow these instructions to answer this assignment. Your assignment will NOT be graded if it doesn't follow these instructions

- 1. Print this assignment and use the empty space provided to answer all your questions.**
- 2. Answer all the questions legibly. You may loose points if the answers aren't legible.**
- 3. Answer all the questions in BLUE or BLACK INK. Assignments answered with a PENCIL will NOT be entertained for re-grade requests.**
- 4. All the necessary assumptions are given below, if you still have your own assumptions, please make sure that you state them clearly.**
- 5. Please staple the assignments properly. Loose sheets of paper or paper folding in not acceptable.**
- 6. By submitting this assignment you vouch that this assignment was done individually.**

- 1. (33 points) Undo logging:** requires that before an item X is modified on disk the log records pertaining to X are in the disk. (This is the WAL rule.) Show using an example that an inconsistent database may result if log records for X are not output to the disk before X. If you believe the database is always consistent, justify your answer.
- 2. (33 points) Redo logging:** Show using an example that an inconsistent database may result if some log entries are written on the disk before the commit is written on the log, even if WAL holds. If you believe the database is always consistent, justify your answer.
- 3. (33 points) Undo logging:** Show using an example that an inconsistent database may result if some log entries are not written in the disk by the time the commit is written. Assume that WAL holds. If you believe the database is always consistent, justify your answer.

In your examples to show an inconsistent database, you should involve a crash and should clearly show (I) the write actions of the transaction, (II) the state of the log and the database at the time of the crash, and (III) why successful recovery cannot be accomplished.

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