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# COMP9315 20T1 Final Exam Q8

Type your answer(s) to replace the xxx's
Submit this file as your answer for Q8

a.
Assume that transactions see the versions of values that existed
when they started.

Log entries        Comments
<start T1>
<start T2>
<T1, X, 5, 6>
<start T3>
<T2, Y, 2, 4>
<T1, Y, 2, 3>      Y was 2 when T1 started
<commit T1>
<T2, X, 5, 9>      X was 5 when T2 started

b.

From lecture slides:
1. For each uncommitted tx T, add <abort T> to log
2. Scan backwards through log
   - If <T, X, v, v'> and T is not committed, set X to v on disk
3. Scan forwards through log
   - If <T, X, v, v'> and T is committed, set X to v' on disk

Aborts
- T2 and T3 are aborted

Undo operations
- T3 would be undone if it updated anything (but it didn't)
- T2 is undone
  1. To undo <T2, X, 5, 9>, X is set to 5 on disk
  2. To undo <T2, Y, 2, 4>, Y is set to 2 on disk

Redo operations
- T1 is redone
  1. To redo <T1, X, 5, 6>, X is set to 6 on disk
  2. To redo <T1, Y, 2, 3>, Y is set to 3 on disk
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