Part A:

The update transaction was still active and had not committed. The record was updated in memory but had not flushed to disk yet. The record in memory can be accesses and will show the updated result. When the transaction is terminated then the update is lost. When the system comes back up, after logging back in, the record is pulled from disk which has the value prior to the update.

Part B:

The update transaction was still active and had not committed. Again, the record was updated in memory and not flushed to disk. The savepoint was set but is deleted when a transaction terminates. Savepoints are only used to rollback the transaction that created the savepoint. A savepoint is a point in the transaction that can be referenced using a rollback.

Part C:

After the rollback to s1 all of the votes in the movie record were returned to their values of savepoint s1

The rollback to s2 rendered an error for being invalid. It is not possible to rollback to a save point that