CS532 Homework 5
Max 3 points

I have done this assignment completely on my own. I have neither copied nor shared my solution with anyone else. I acknowledge that if I engage in plagiarism or cheating, I will sign an official form admitting to the violation, which will be added to my official university record. I also understand that a first offense will result in a grade of 0 for the assignment and a one-level reduction in my course letter grade, and any subsequent offense of any kind will result in a grade of 'F' for the course.
Name: _____ Signature: _____

1. [1 point] Consider the following three transactions (time goes from left to right):

   T1: R1(X) R1(Y)W1(Y)
   T2: W2(X) R2(Z)W2(Z)
   T3: R3(Y)W3(Y) R3(X)W3(Z)

   Give a non-serial schedule that satisfies the strict two-phase locking (S2PL) protocol. In addition, enforce the rule that each transaction releases its locks as soon as possible. Give a serial schedule that is equivalent to your non-serial schedule.

2. [2 points] Assume that there are 3 data items x, y and z in the database. Consider the following three transactions T1, T2 and T3 with their operations coming in the given order (from left to right):

   T1: R1(x) W1(x) R1(y) W1(y)
   T2: R2(x) W2(x) R2(z) W2(y)
   T3: W3(z) R3(y)

   Provide the schedule generated by (a) [1 point] 2PL + Wait-Die Rule and (b) [1 point] 2PL + Wound-Wait Rule. You do not have to show the restart of aborted transactions. Release locks as soon as possible.