CS150A Quiz #6

Serializability

Schedule 1

T1	R(A)		W(A)			R(B)			W(B)	
T2		R(A)						W(A)		R(C)
T3				R(A)	R(B)		R(C)			

1. **1) Select all edges that are present in the above schedule's dependency graph.**
   Notice that order matters! The edges are in the format (a, b), where a is the source node, and b is the destination node.
   Check all that apply.

   - [ ] (T1, T2)
   - [ ] (T1, T3)
   - [ ] (T2, T1)
   - [ ] (T2, T3)
   - [ ] (T3, T1)
   - [ ] (T3, T2)

2. **2) This schedule is:**
   Select all that apply.
   Check all that apply.

   - [ ] Serial
   - [ ] Serializable
   - [ ] Conflict Serializable
   - [ ] None of the above

Schedule 2

T1		R(A)		W(A)					R(B)	W(B)
T2			R(A)				W(A)	R(C)		
T3	R(B)				R(C)	R(A)				

3. **3) Schedule 1 and schedule 2 are conflict equivalent.**
   Mark only one oval.

   - True
   - False

4. **4) True or False: Every serializable schedule is also conflict serializable.**
   Mark only one oval.

   - True
   - False

5. **5) True or False: If its dependency graph has no cycles, a schedule is always conflict serializable.**
   Mark only one oval.

   - True
   - False

Locks

Each column represents a single transaction:

T1	T2
Lock_X (A)	
Lock_S (B)	
	Lock_S (B)
Read (A)	
	Read (B)
	Lock_S (A)
Read (B)	
A := B+A	
Write (A)	
Lock_X (C)	
Read (C)	
C := A+C	
Write (C)	
COMMIT	
Unlock (A)	
	Read (A)
	Lock_S (C)
Unlock (C)	
Unlock (B)	
	Read (C)
	print (C + B)
	COMMIT
	Unlock(C)
	Unlock(B)
	Unlock(A)

6. **6) If the initial values of A, B, and C are 10, 50, 75 respectively, what is printed by print(C+B)?**

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7. **7) The given schedule follows:**
   Check all that apply.

   - [ ] 2-phase locking
   - [ ] Strict 2-phase locking
   - [ ] None of the above