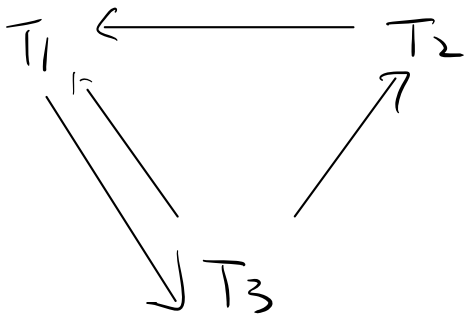
CS150A Quiz #6

Serializability

Schedule 1

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

1) Draw the schedule's dependency graph.



2) This schedule is:

Select all that apply.
Check all that apply.

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

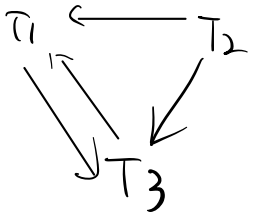
Schedule 2

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

3) Schedule 1 and schedule 2 are conflict equivalent.

Mark only one oval.

- [x] True
- [ ] False



4) True or False: Every serializable schedule is also conflict serializable.

Mark only one oval.

- [ ] True
- [x] False

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

Mark only one oval.

- [x] True
- [ ] False

Locks

Each column represents a single transaction:

A, B, C

20, 30, 45

50 30 45

50 30 95

C+B=125

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) If the initial values of A, B, and C are 20, 30, 45 respectively, what is printed by print(C+B)?

125

7) The given schedule follows:

Check all that apply.

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