

CSCI235: Database Systems

Assignment 2

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Task 2

1)

T1	T2	T3
lock(z); d = read(z)		
	lock(x); a = read(x)	
		lock(v); c = read(v);
		lock(x); wait;
lock(v); wait;		
	lock(y); write(y, a+1)	
	lock(z); wait;	

2)

T1	T2	T3	TO
	Timestamp(t2)		
	A = read(x)		X: t2
		Timestamp(t3)	
		C = read(Z)	Z: t3
	Write(y, a+1)		Y: t2
	Write(z, a-1); fail		Z: t3, t2
		write(X, 1)	X: t2, t3
		Commit	
Timestamp(t1)			
D = read(z); forced abort			

3)

T1	T2	T3
		C = read(v)
D = read(z)		
	A = read(x)	
	Write(y, a+1)	
Write(v, d+1)		
Commit		
	Write(z, a-1)	
	Commit	
		Write(x, 1); abort