Spring 2008 **CSC 468:** DBMS Organization Alexander Dekhtyar

Homework 3
Transaction Management and Concurrency Control

Problem 1 *Excercise 18.2, parts 1, 2 (page 538, textbook).*

Problem 2 *Excercise 18.3, (pages 538-539, textbook).*

Problem 3 *For each of the schedules below, specify whether it is* serial, serializable, conflict-serializable, view-serializable, strict. *Qualify your answer; construct dependency (serializability) graphs for each schedule.*

3.1

T1	T2	T3	T4
R(A)			
	R(A)		
		W(B)	
W(A)			
			R(B)
	commit		
R(C)			
		R(C)	
			R(C)
W(A)			
		W(C)	
commit			
			W(A)
		commit	
			commit

3.2

T1	T2
R(A)	
W(A)	
R(B)	
R(C)	
W(D)	
commit	
	W(B)
	W(C)
	R(D)
	W(A)
commit	

3.3

T1	T2	T3
R(B)		
W(B)		
	R(A)	
		R(B)
	W(B)	
		R(A)
R(A)		
	abort	
W(A)		
		W(B)
commit		commit

3.4

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

3.5

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

3.6

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

Problem 4 *All schedules below must have at least 3 transactions. When writing down the schedules, please indicate all locks and lock releases.*

1. *Give an example of a serializable schedule that would not be accepted by Strict 2PL mechanism.*
2. *Give an example of a conflict-serializable schedule that would not be accepted by Strict 2PL mechanism.*
3. *Give an example of a strict schedule that would not be accepted by Strict 2PL mechanism.*