Homework Assignment 5

Q1-Q4, You can find solutions from PPT Lec08 directly including examples.

Problem 1 (10 points)

To preserve the integrity of data, the relational database system must ensure four properties. What are them?

Problem 2 (10 points)

What is a serializable schedule? What are the two different forms of serializability?

Problem 3 (15 points)

The schedule below produces same outcome as the serial schedule < T1, T5 >. But it is not view serializable. Why?

T_1	T_5
read (A)	
$A := A - 50$	
write (A)	
	read (B)
	$B := B - 10$
	write (B)
read (B)	
$B := B + 50$	
write (B)	
	read (A)
	$A := A + 10$
	write (A)

Problem 4 (15 points)

Is the following schedule recoverable? Why?

T_8	T_9
read (A)	
write (A)	
	read (A)
	commit
read (B)	

Problem 5 (25 points)

Is the following schedule conflict serializable? Use precedence graph to justify your answer.

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

Problem 6 (25 points)

Is the following schedule conflict serializable? What is its equivalent serial schedule?

T1	T2	T3
Read(A)		
…		
write(A)		
		Read(A)
		…
		Write(A)
	Read(B)	
	…	
	Write(B)	
Read(B)		
…		
Write(B)		