

Examples of unserializable schedules (solution: strict 2PL)

☆ Lost update

(e.g., two deposits on same account)

T1:	T2:
R(A)	R(A)
	W(A)
	commit
W(A)	
commit	

☆ Write Skew

(e.g., concurrent withdrawals from two accounts whose sum must be above 0\$)

☆ Unrepeatable read

T1:	T2:
R(A)	
	W(A)
	commit
R(A)	
commit	

Check
that sum
is > 0
then
withdraw
From one

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

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Problems with uncommitted writes (solution: long X-locks)

□ Dirty read:

☆ what if the write aborts?

T1:	T2:
W(A)	
	R(A) ???
W ^I (A)	
abort	

□ Dirty write

☆ Usually, whenever a transactions updates an object, it logs its before image and reinstalls this before image when it aborts

☆ What if another transaction has already overwritten the object?

T1:	T2:
W(A)	
	W(A)
???	
W ^I (A)	
abort	

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