

Aborts

Example 1

T1	T2
R(A)	
W(A)	
	R(A)
	W(A)
	Commit
R(B)	
W(B)	
Abort	

What is the effect of the abort? Remember that the effect of an abort is that the entire transaction is rolled back from log entries. When we roll back T1, we reset it to the previous values. Unfortunately, T2 has already committed.

It leaves the database in an inconsistent state – because this is an unrecoverable schedule. A recoverable schedule is one in which a transaction can commit only after any transactions whose data was read has committed.

Example 2

T1	T2
R(A)	
W(A)	
	R(B)
	W(B)
	Commit
R(B)	
W(B)	
Abort	

Any issues here? No, because neither transaction is reading uncommitted data.

Example 3

T1	T2
R(A)	
W(A)	
	R(A)
	W(A)
R(B)	
W(B)	
Abort	
	Cascade

In this example we removed the inconsistency by making this a recoverable schedule. Since T2 read a value from T1, the Commit was held until T1 committed. T1 aborted however. Since T2 had a dependency on T1, it was forced to abort as well. This is called a cascading abort.