LET'S START WITH DBMS :)

View-Serializability

View serializability ensures that the database state seen by transactions in a concurrent schedule can be replicated by some serial execution of those transactions.

When we find cycle in our conflict graph, we don't know if our schedule is serializable or not, so we use the view serializability here.

A schedule is view serializable if it's view equivalent is equal to a serial schedule/execution.

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

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View–Serializability

Conditions for View Equivalent schedule

For a schedule to be view–Equivalent it should follow the following conditions

1.Initial Read Values:

- An initial read of both schedules must be identical. For example, consider two schedules, S and S'. If, in schedule S, transaction T1 reads the data item A, then in schedule S', transaction T1 should also read A.

S

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

S'

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

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View-Serializability

Conditions for View Equivalent schedule

2.Updated Read:

- In schedule S, if Ti is reading B which is updated by Tj then in S' also, Ti should read B which is updated by Tj.

S

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

S'

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

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View–Serializability

Conditions for View Equivalent schedule
3. Final Update
- A final write must be identical in both schedules. If, in schedule S, transaction T_i is the last to update A, then in schedule S', the final write operation on A should also be performed by T_i

S

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

S'

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

LET'S START WITH DBMS :).

The number of possible serial schedules for n transactions is given by the number of permutations of the transactions: n!

Q.Find the view equivalent schedule

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

LET'S START WITH DBMS :)

View–Serializability

Step 1: Find if conflict serializable or not.

Step 2: Find the possible serial schedules -> 3!

Step 3: Choose one possibility and check for view equivalent conditions (T1->T2->T3)

1. Initial Read -> T1
2. Update Read-> No read performed after update so no need to check
3. Final Update-> T3

Step 4: If the view equivalent schedule matches the condition, it is view serializable.

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