CB.EN.U4CSE
18302

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# Transaction Management

## Online Train Seat reservation

Transaction 1:

read (A)
A := A - 1
write (A)
commit

Transaction 2:

read (A)
commit

Transaction 3:

read (A)
A := A + 1
write (A)

Transaction 1 is for booking ticket for single berth
Transaction 2 is for read no of seats booked in a particular Train
Transaction 3 is for incrementing the seat count.

(1) Sequence:

$T_1 \rightarrow T_2 \rightarrow T_3$

Generally scheduler maintains consistency.
So, the schedule is sequential into $T_1$ then next $T_2$ and $T_3$.

(2) // schedule 2
read (A)
A : A+1
// schedule 3
read (A)
write (A)
// schedule 1
read (A)

The reason behind for the first reading value is to avoid consistency in the system.

(3) Schedule 2:

Transaction 1
read (A)
commit

Transaction 2
read (A)
commit

since both are read it is in consistent state

Schedule 3:

Transaction 1
read A
A : A+1
write (A)

Transaction 2
A = A-1
write (A)

since one is read another is in inconsistent state