

Q2)

T_1	T_2
$S(A)$	
$R(A)$	$S(A)$
	$R(A)$
$X(A)$	
	com
$W(A)$	
com	

1) $T_1: S(A)$ acquires a shared lock on item A

Item	Locks
A	$S(T_1)$

2) $T_2: R(A)$ already has shared lock so it can proceed to read A

Item	Locks
A	$S(T_1)$

3) $T_2: S(A)$ requests a shared lock on A.

Item	Locks
A	$S(T_1, T_2)$

4) $T_2: R(A)$ has a shared lock so A can be read

Item	Locks
A	$S(T_1, T_2)$

5) $T_1: X(A)$ T_1 requests exclusive lock on A but T_2 has shared lock, T_1 must wait

6) $T_2: com$ T_2 releases its shared lock on A after commit

Item	Locks
A	$S(T_1)$

7) $T_1: W(A)$ T_1 acquires X lock on A and writes to A

Item	Locks
A	$X(T_1)$

8) $T_1: com$ T_1 releases its X lock on A after commit