

# HW5 part 3

Monday, November 16, 2020 8:58 PM

Part 3.

A. Rewrite w/ Locks

	$T_1$	$T_2$	$T_3$
$L_1(A)$	$R_1(A)$		
$L_1(B)$	$w_1(A)$ $u_1(A)$		$L_3(A)$ $R_3(A)$
			$w_3(A)$
	$L_2(A)$ DENIED		
	$R_1(B)$		$L_3(B)$ DENIED
	$w_1(B)$ $u_1(B)$		$L_3(B)$ GRANTED $R_3(B)$
			$w_3(B)$ $u_3(A), u_3(B)$
	$L_2(A)$ GRANTED $L_2(B)$		
	$R_2(A)$		
	$R_2(B)$ $u_2(A), u_2(B)$		
	Commit <sub>2</sub>		
	Commit <sub>1</sub>		
			Commit <sub>3</sub>

Here  $T_2$  must wait for  $T_3$  to release its lock on A

Here  $T_3$  must wait for  $T_1$  to release its lock on B

B. If 2PL ensures conflict serializability, why do we need

Strict 2PL? Explain.

We need Strict 2PL in order to attain recoverability. In a case where we want to abort/rollback a transaction, recoverability will allow us to get the original data; without it, the original data might have been overwritten by another transaction. Strict 2PL guarantees conflict serializability & Recoverability.