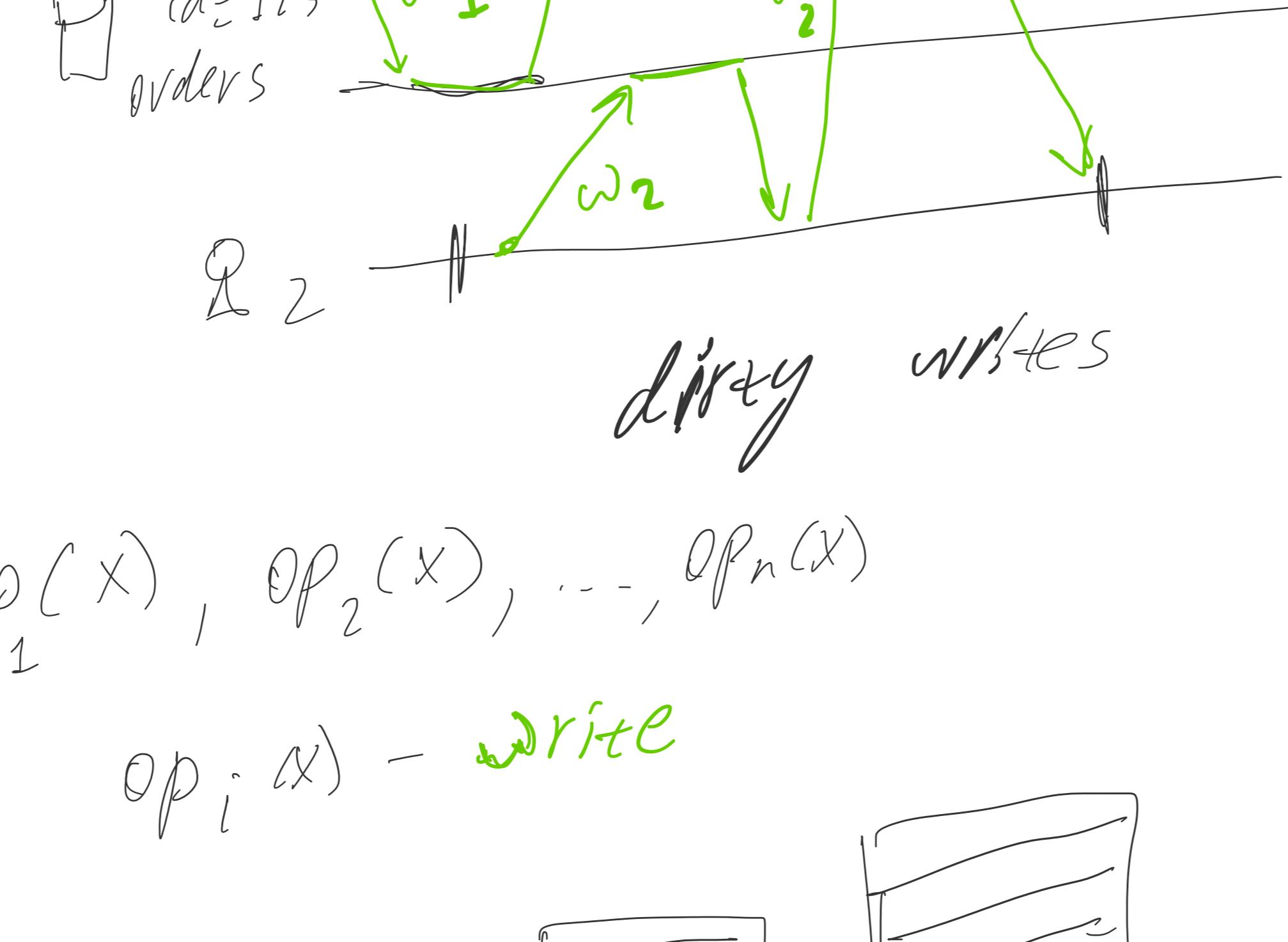
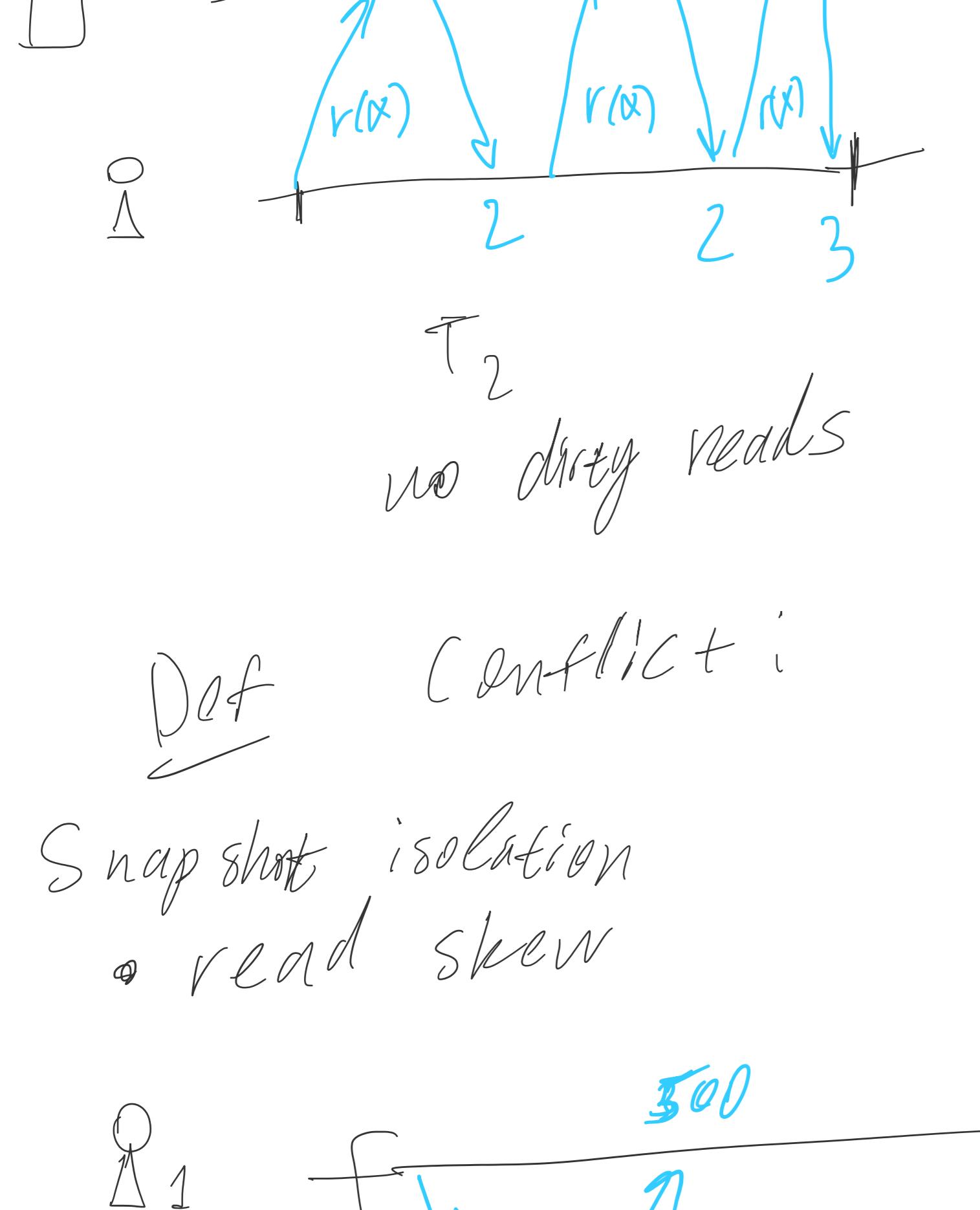


Isolation Levels

0) Read Uncommitted

1) Read Committed

- no dirty reads
- no dirty writes

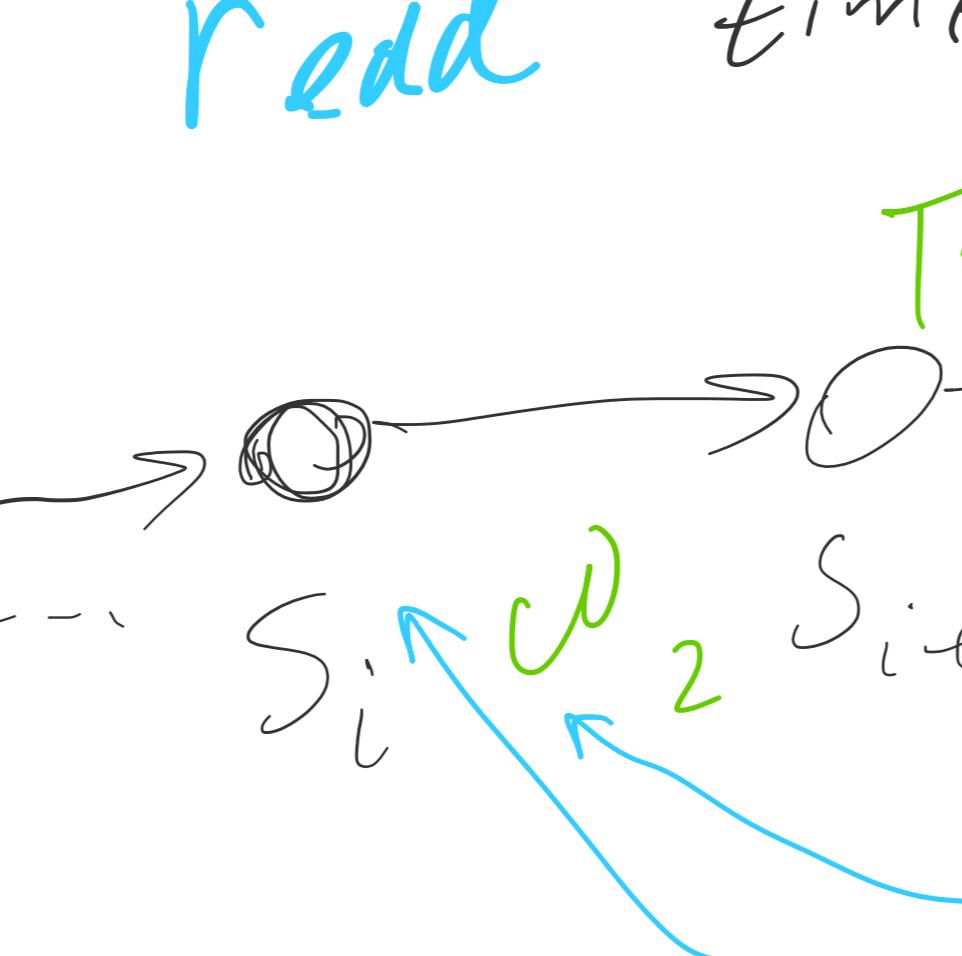


2) Snapshot isolation
read skew



$op_1(x), op_2(x), \dots, op_n(x)$

$op_i(x) - \text{write}$



read timestamp

S_{i+1}

S_i

S_{i+2}

$T_1 r_1 r_2$

$T_2 r_3$

$T_3 r_4$

$T_4 r_5$

$T_5 r_6$

$T_6 r_7$

$T_7 r_8$

$T_8 r_9$

$T_9 r_{10}$

$T_{10} r_{11}$

$T_{11} r_{12}$

$T_{12} r_{13}$

$T_{13} r_{14}$

$T_{14} r_{15}$

$T_{15} r_{16}$

$T_{16} r_{17}$

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$T_{145} r_{146}$