Today’s Plan

- Assignment 3
- Assignment 4
- O2PL, Altruistic Locking
- Homework
O2PL

- Bigger subset of CSR than 2PL
- Theoretically superior to 2PL but more complex to implement (run-time overhead)
- Lock mode “ordered sharing”: lock operations and data operations must be executed in the same order
- Unlocking rule: while $pl_i(x) \rightarrow ql_j(x)$ and $t_i$ has not started releasing locks, $T_j$ is on hold and may not release any locks
- $Gen(O2PL) = OCSR$
Altruistic Locking

- Extension of 2PL for long-running transactions
- "Donate" operation $d_i(x)$ that does not interfere with the 2PL of locking and unlocking steps, does still require unlocking
- When $T_j$ uses a donation by $T_i$ it has to stay in the wake until $T_j$ starts unlocking, but $T_j$ can also choose to ignore the donation
- $\text{Gen}(AL) \supset \text{Gen}(2PL)$ and $\text{Gen}(AL) \subset \text{CSR}$
Homework

- Already uploaded to our website.