

DBMSs have read and write locks. Read locks can be shared across transactions. Everyone can read at the same time. Exclusive locks are for writing and can only be held by one transaction at the time. Read locks can be upgraded to write locks, but only if the upgrading transaction is the only one to hold the read lock. This would prevent lost updates because only one transaction can make an update at a time.

Versioning DBMSs is when all operations make changes to the copies of the data held by their transactions and store them in separate versions tagged with a timestamp. When the transaction issues a commit, it checks whether there are conflicting versions and rolls back one of the transactions. DBMSs have different strategies deciding which of the transactions to rollback.