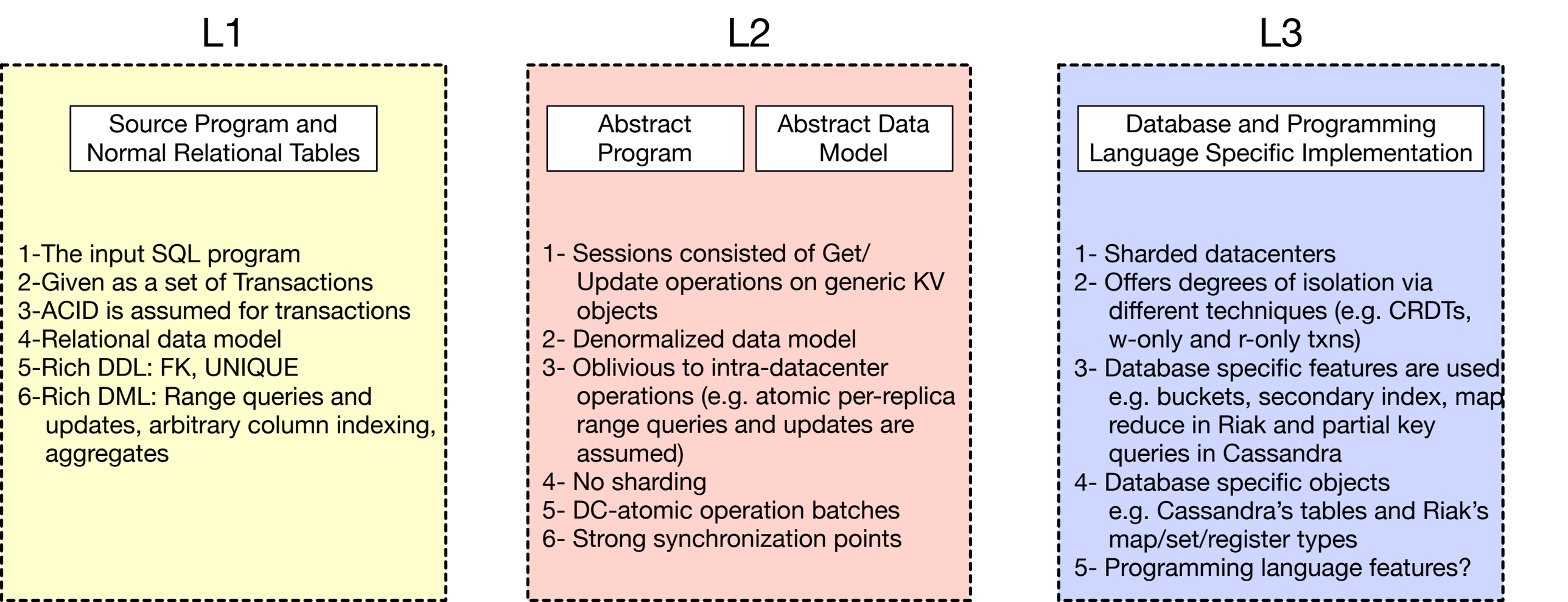
L1
Source Program and Normal Relational Tables
1-The input SQL program
2-Given as a set of Transactions
3-ACID is assumed for transactions
4-Relational data model
5-Rich DDL: FK, UNIQUE
6-Rich DML: Range queries and updates, arbitrary column indexing, aggregates
L2
Abstract Program
Abstract Data Model
1- Sessions consisted of Get/ Update operations on generic KV objects
2- Denormalized data model
3- Oblivious to intra-datacenter operations (e.g. atomic per-replica range queries and updates are assumed)
4- No sharding
5- DC-atomic operation batches
6- Strong synchronization points
L3
Database and Programming Language Specific Implementation
1- Sharded datacenters
2- Offers degrees of isolation via different techniques (e.g. CRDTs, w-only and r-only txns)
3- Database specific features are used e.g. buckets, secondary index, map reduce in Riak and partial key queries in Cassandra
4- Database specific objects e.g. Cassandra's tables and Riak's map/set/register types
5- Programming language features?