Day 21: Consistency
Consistency Semantics for a shard

Single shard properties

“Raft”

Linearizable → Sequential

Fast (lazy replication) → Hard to code with eventual consistency

Easy to program with

Passive/Active replication
what is the value of $k$?

for eventual consistency

for linearizable system

for lazy replication
ordering is defined by semantics above

How do you define ordering across shards?
Consistency across short (for transactions)

serializable

strict serializable

Pessimistic locks w/ 2PC

optimistic locks without 2PC

1) Ordering of transactions is undefined with optimistic locks

2) Without 2PC transactions can read uncommitted writes