This quiz has been regraded; your score was affected.

Quiz - Data Scaling

- Due Nov 27 at 12:30pm
- Points 10
- Questions 10
- Available Nov 27 at 12:20pm - Nov 27 at 12:30pm 10 minutes
- Time Limit 10 Minutes

This quiz was locked Nov 27 at 12:30pm.

Attempt History

	Attempt	Time	Score	Regraded
LATEST	Attempt 1	7 minutes	9 out of 10	10 out of 10

Correct answers are hidden.

Score for this quiz: 10 out of 10
Submitted Nov 27 at 12:27pm
This attempt took 7 minutes.

Question 1
1 / 1 pts

Which of the following is NOT a reason to distribute a database across multiple machines?

- (•) Reducing replication lag
- ( ) Fault tolerance
- ( ) Scalability
- ( ) Reducing latency

Question 2
1 / 1 pts

Replication is best described as:

- ( ) Randomly assigning keys to machines
- ( ) Using a hash function to spread data evenly
- (•) Keeping copies of the same data across multiple nodes
- ( ) Splitting data into independent subsets across nodes

Question 3

1 / 1 pts

Which replication model has a single node responsible for handling all writes?

- Multi-leader
- Leaderless
- Single-leader
- Synchronous replication

Question 4

1 / 1 pts

A follower reconnects after being offline for a long time. What does it request first?

- A fresh full copy of the database
- The leader's entire WAL in reverse order
- All writes since the leader election
- Replication logs since the last record it knows

Question 5

1 / 1 pts

Which replication log approach may cause inconsistencies due to nondeterministic functions?

- Statement-based replication
- Logical (row-based) replication
- WAL shipping
- Hash-based state replication

Question 6

Original Score: 0 / 1 pts Regraded Score: 1 / 1 pts

This question has been regraded.

Read-After-Write consistency ensures:

- All users see consistent reads
- A user always sees their own updates immediately
- Writes occur on more than one replica
- Followers catch up faster

Question 7

1 / 1 pts

In multi-leader replication, write conflicts occur when:

- (●) Two leaders concurrently update the same record
- ( ) A follower and a leader write at the same time
- ( ) A replica falls behind
- ( ) Two followers update the same record

Question 8

1 / 1 pts

Which conflict resolution method gives priority based on node ranking?

- ( ) Last write wins
- (●) Precedence numbers
- ( ) Read repair
- ( ) Client-side merge

Question 9

1 / 1 pts

Partitioning is required when:

- ( ) You need a temporary backup
- (●) Your data becomes too large for a single machine
- ( ) Replication fails
- ( ) Replicas become inconsistent

Question 10

1 / 1 pts

In leaderless replication, if r = 1 and w = 1 in a 3-node system, what is **most likely to occur**?

w = 1 (write succeeds after *only one replica* writes it)

r = 1 (read returns *after only one replica* responds)

- ( ) Zero probability of conflicts
- ( ) Automatic leader election

- (●) Lower latency but stale reads
- ( ) Higher consistency

Quiz Score: 10 out of 10