Ex: in 1 lead, 3 follower. If all 4 node fails, then nothing can happen and it is a total loss.

If 3 node fails, then it is critical to decide.

Kafka’s guarantees no data loss, if at least one or more replica is in-sync based on property “config unclean.leader.election.enable”

If all followers that are replicating a partition leader die at once, then data loss Kafka guarantee is not valid. If all replicas are down for a partition, Kafka, by default, chooses first replica (not necessarily in ISR set) that comes alive as the leader (config unclean.leader.election.enable=true is default). This choice favors availability over consistency.

If consistency is more important than availability for your use case, then you can set config unclean.leader.election.enable=falsethen if all replicas are down for a partition, Kafka waits for the first ISR member (not first replica) that comes alive to elect a new leader.