

Chat Mode

RAG Mode

Parameters

Max Length

8

1024

2048

Temperature

0.00

0.70

1.00

Actions

New Chat

Clear History

Response Time (Non-RAG): 13.37 seconds

CPU Usage (Non-RAG): 22.40%

Memory Usage (Non-RAG): 0.10%

Local Chatbot

A chatbot powered by LlamaIndex and Ollama

Hello, I'm your assistant, how can I help you?

8. Given a distributed system using the Paxos consensus algorithm, what is the minimum number of nodes that must be operational to achieve consensus in a system with N nodes?
a) $N/2$ b) $N/2 + 1$ c) $2N/3$ d) $N - 1$

The correct answer is (b) $N/2 + 1$.

Here's why:

- Paxos Consensus:** Paxos is a distributed consensus algorithm used to ensure that all nodes in a system agree on the same value (a decision).
- Quorum:** A key concept in Paxos is the quorum. A quorum is a subset of nodes large enough to prevent any single node from unilaterally deciding on a value.
- Majority Requirement:** To achieve consensus, Paxos requires a majority of the nodes to agree on a proposal. In a system with N nodes, a majority is $(N+1)/2$.
- Minimum Operational Nodes:** Since nodes can fail, you need more than just a simple majority to ensure that enough nodes are operational to form a quorum and reach consensus. The minimum number of operational nodes required is $N/2 + 1$. This guarantees that even if half the nodes fail, there will still be enough operational nodes to form a quorum and make a decision.

Let me know if you have any other questions about Paxos or distributed systems!

Ask a question:

localhost:8501

1/1