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Q) Specify the relationship between local and global state?

Ans:- All the local snapshots get disseminated to all other processes and all the processes can determine the global state.

Q) What is the rule of marker in Chandy-Lamports algorithm?

Ans: Marker sending rule for a process P

- P records its state
- For each outgoing channel C from P on which a marker has not been already sent, P sends a marker along C before P sends further messages along C.

Marker Receiving Rule for a Process Q.

if Q has not recorded its state then
- record the state of C as an empty seq.
- follow the "Marker Sending Rule".

else
- record the state of C as the seq. of msg. received along C after Q's state was recorded & before Q received the marker along C.

Q Describe the procedure to capture the global state using Chandy-Lamport's algo

Ans: Chandy & Lamport were the first to propose a algo. to capture consistent global state of a distributed system. The main idea behind proposed algorithm is that if we know that all message that have been sent by one process have been received by another then we can record the global state of the system.

Any process in the distributed system can initiate this global state recording algorithm using a special message called "MARKER". This marker traverse the distributed system across all communication channel and cause each process to record its own state. In the end, the state of entire system is recorded.