How to compile and run the code

A makefile has been created that lists down commands as follows:

- compileAll: make compileAll

writing "*make compileAll*" in command line will create the objects ClockSynchBerkeley, CausalorderedMulticast & NoncausalMulticast for Clock Synchronization, Causal multicast and non-causal multicast programs, respectively.

- BerkeleySlaveRun: make BerkeleySlaveRun

writing "*make BerkeleySlaveRun*" in command line will run the client/slave process for clock synchronization. Multiple windows can be opened, and the command can be run for different process ids. n denotes process id. The process waits to be synchronized until the master runs. Running the command also shows the distributed locking scheme by showing the counter being updated every time a new process shares the file counter.txt.

- BerkeleyMasterRun: make BerkeleyMasterRun

writing "*make BerkeleyMasterRun*" in command line will run the master or daemon process to synchronize all the slave processes. This command must be run after at least one "make BerkeleySlaveRun" command.

- CausalRun: make CausalRun

writing "*make CausalRun*" in command line will allow process with id =0 to multicast a message as "Message" to 3 other processes. Multiple windows up to 4 can be opened, and the command can be run for different process ids and different messages by replacing <process id 0> with 1, 2 or 3 and <message> by any character string in makefile. As more windows are opened, one can note the sender id and the message, and the vector clocks vary. The messages that are sent later and delivered before another message are buffered and maintain causality.

- NonCausalRun: make NonCausalRun

writing "*make NonCausalRun*" in command line will allow process with id =0 to multicast a message as "Message" to 3 other processes. Multiple windows up to 4 can be opened, and the command can be run for different process ids and different messages by replacing <process id 0> with 1, 2 or 3 and <message> by any character string in makefile. As more windows are opened, one can note the sender id and the message, and the vector clocks vary. There is no buffering for non-causal messages.

- clean: make clean

writing "*make clean*" will clean all the objects created by the makefile.