**Observations**

1. With Roucairol-Carvalho optimization on the Ricart-Agrawala algorithm for mutual exclusion in distributed systems, it was observed that the number of messages were significantly reduced compared to that of Ricart-Agrawala algorithm without the optimization. In one run of the experiment with N = 10, and 20 critical section requests per process, the total number of send and receive messages added to 6301 messages, which is about 12.5% lesser than 7200 messages required by Ricart Agrawala without optimization. This is because of the nature of the optimization, which keeps track of the permissions received by other processes and doesn't make requests from which permissions have already been received, for subsequent critical section**(CS)** accesses.
2. For the first 20 CS accesses, it is observed that the even numbered and odd numbered nodes have comparable waiting times before CS access.
3. However, for the next 20 CS accesses, it is observed that there will be a significant reduction in the waiting times of odd numbered processes. This can be attributed to the fact that after the first 20 CS accesses, the even numbered nodes have a significantly larger range for waiting time than the odd numbered processes and therefore, the competition for CS will be reduced.
4. For even numbered nodes, it is noted that there is a massive reduction in the waiting times after the first 20 CS accesses. Since the even numbered nodes have a larger range for waiting times, the odd numbered nodes, finish their CS accesses quickly and once they are done with all their CS accesses, they do not compete for any more CS accesses. As a result, only the even numbered nodes will be in competition. Moreover, the large range for waiting time ensures further reduction in competition among the even-numbered nodes, thus resulting in a massive reduction in waiting times.