

Programming assignment 2
Report
EE17BTECH11041

Number of threads = 10, 20, 30, 40, 50

Number of variables(m) = 10

Lambda = 100

MVTO Implementation -

Data Structures used :

map<int,int> status - Used to maintain the status of the other transactions.

map<int,vector<int> > writelist - Used to maintain the write list of all the variables (data item).

map<int,int> maxRscheduled - Used to maintain the latest transaction reading each data item

map<int,map<int,int> > varVersions - Used to maintain the versions of each data item.

varLock - Used for locking the readlist, writelist, readset, writeset, status.

Various locks used for recording measured time, abortcount into shared variables.

For every operation -

Write - acquire varLock, check status, check if maxRscheduled on the data item it wants to read is greater than less than its tx id, append to write list, release varLock.

Read - acquire varLock, check status, read from the version written by a latest transaction less than its tx id (Checking the writelist), update the maxRscheduled, release varLock.

If any conditions not satisfied abort at read or write

Try_commit -

Write the values updated to the varVersions during commit time.

Average commit time - Average time taken by a transaction from begin_trans() to commit successfully.

Average abort count - No of transactions aborted per committed transaction.

