TSHPC
TUNISIAN SOCIETY OF HIGH PERFORMANCE COMPUTING

Programming Project

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Installation procedure of OpenMPI

- wget https://download.open-mpi.org/release/open-mpi/v4.0/openmpi-4.0.2.tar.gz
- tar –xzvf openmpi-4.0.2.tar.gz
- cd /homedirectory/ ; mkdir MPI
- cd openmpi-4.0.2
- ./configure - - prefix=/homedirectory/MPI (you can choose any path)
- make –j
- make install
- export PATH=$PATH: /homedirectory/MPI/bin
- export LD_LIBRARY_PATH=$LD_LIBRARY_PATH:/homedirectory/MPI/lib
- Last two commands ideally copied in .bashrc usually in your home directory

Project: implementation of MPI_Bcast

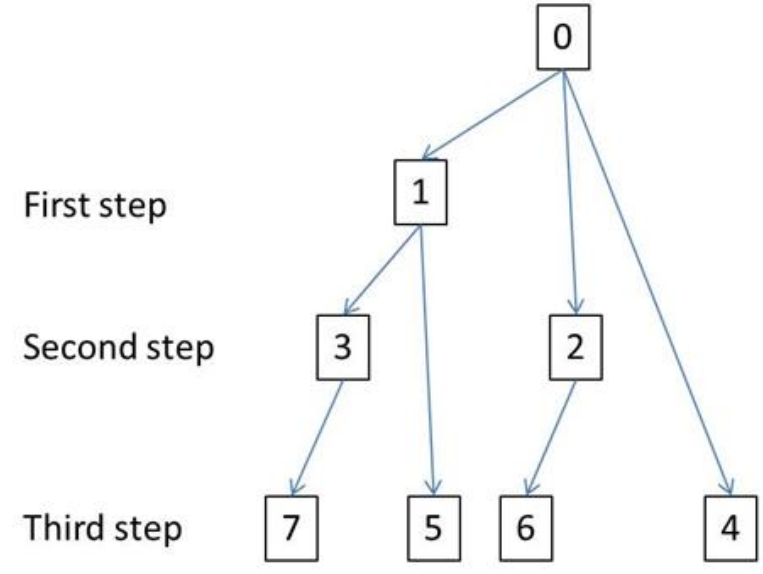
- Implement MPI_Bcast with blocking point to point communication operations

```
MPI_Bcast (void *buf, int cnt, MPI_Datatype
dat, int root, MPI_Comm comm);
```

- K-chain (Optional, extra credit)
- Binary Tree (Optional, extra credit)
- Binomial Tree (Mandatory)

Project: implementation of MPI_Bcast

- Binomial Tree (Mandatory)



Project: implementation of MPI_Bcast

- Deliverables:
  - Commented source code of my_MPI_Bcast that works for any root and any messages (start with root=0 if you wish)
  - main function that call your my_MPI_Bcast and compare the results to the MPI implementation MPI_Bcast and print the results of both, the test should be with two integer arrays
  - Document illustrating your code and results

Delivery

- Deadline: January 15th, 2020
- Teams: maximum of two students
- Email to: saber.feki@gmail.com and smaoui.malek@gmail.com