ReadMe

November 16, 2018

1 Running the program

For running this program we need following tools to be installed:

- NFS-kernal
- NFS-common
- SSH-server
- SSH-common
- MPICH2

Run the following script named: (script name) to configure a LAN cluster to run the program in parallel.

Given program automatically generates complete graph for finding the minimum weight.

To run the program execute following command:
mpic++ (program name) -o mpi
mpirun -np #processors –hostfile (name of the hostfile) ./mpi -v #vertices -s #seed
where each flag means:
-f : File name in which graph weights are provided. Weights are in csv format with different line for each row.
-v : for number of vertices in randomly generated graph. (Not to be used with -f)
-c : to enable generation of random incomplete graphs (Not to be used with -f) : No argument required
-s : Change seed of random function to generate different random matrices (Not to be used with -f)

Points to be noted

- The program should not be used with number of vertices less than 4.
- Also minimum number of processes should be 2, 2 processors would mean sequential program as master process doesn't traverse any sub-tree.

- If input graph is to be taken from a file (use -f flag), the file should be copied on all the machines in the working directory. This is because keeping file in one place and later broadcasting doesn't work. Reason could not be found. This may be an internal bug of MPICH2 itself.