

## PROJECT 2 README

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### Running instructions:

\$ mix compile

\$mix run -e Proj2.main <numnodes> <topology> <algorithm>

Where: numnodes: number of nodes(ex: 1000)

topology:

- “full” for Full Network
- “line” for Line network
- “impLine” for Imperfect Line Network
- “2dgrid” for Random 2D Grid
- “3dgrid” for 3D Grid
- “torus” for Torus Network

Algorithm:

- “gossip” for Gossip Algorithm
- “pushsum” for Push-Sum Algorithm

Ex: For numnodes=100, topology=Full, algorithm = Gossip after \$mix compile, type:

**\$mix run -e Proj2.main 100 full gossip**

### What is working:

The program is working for both Gossip and Push-sum algorithms with 100% of the convergence for all the types of networks with the given termination conditions (described in detail in the project report). Maximum size of the network for which Gossip algorithm is working is

Full Network: **5000** Nodes

Line Network: **2000** Nodes

Imperfect Line Network:**2000** Nodes

Random 2D Grid Network:**5000** Nodes

Torus Network:**100,000** Nodes

3D Grid Network: **100,000** Nodes