Distributed Operating Systems, Project 2: Gossip Protocol
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Instructions to RUN:

1. Make sure epmd daemon is running. Run epmd -daemon
2. Run following commands from the directory which has mix.exs

     mix escript.build

     ./project2 numNodes {full | imp2D | line | 2D} {gossip | push-sum}

Working:

1. Convergence of Gossip algorithm for all topologies.
2. Convergence of Push-Sum algorithm for all topologies.

Largest network used:

1. For Gossip algorithm:
    a. Full Network Topology: 5,000
    b. Line Topology: 5,000
    c. 2D Grid Topology: 100,000
    d. Imperfect 2D Grid Topology: 100,000

2. For Push-Sum algorithm:
    a. Full Network Topology: 5,000
    b. Line Topology: 5,000
    c. 2D Grid Topology: 100,000
    d. Imperfect 2D Grid Topology: 100,000

Sample Outputs:

sushmit@sushmit-Lenovo-Y50-70:~/Fall 2017/Distributed Systems/Project2/gossip_simulator/
project2$ ./project2 100 full gossip
Using Gossip algorithm
Using full topology
Spread: 95.0 %
Time required: 18 ms

Spread is the ratio of nodes that received the rumour divided by the total number of nodes.
Time required is the convergence time of the network.

sushmit@sushmit-Lenovo-Y50-70:~/Fall 2017/Distributed Systems/Project2/gossip_simulator/
project2$ ./project2 100 full push-sum
Using push-sum algorithm
Using full topology
Spread: 93.0 %
Time required: 20 ms