

**Distributed Operating System, COP5615**  
**Project 2 – Gossip Simulator**  
**Fall 2018**

**Group members:**

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**Part 1 :**

**Execute project2.zip:**

1. Unzip the folder into your workspace.
2. Make the folder project2 as your current working directory.
3. Run mix escript.build
3. Run `./project2 100 {full|line|impLine|rand2D|3D|torus} {gossip|push-sum}`

**What is working:**

1. Gossip algorithm for following topologies:
  - Full
  - Line
  - Imperfect Line
  - Random 2D Grid
  - 3D Grid
  - Torus
2. Push-Sum algorithm for following topologies:
  - Full
  - Line
  - Imperfect Line
  - Random 2D Grid
  - 3D Grid
  - Torus

**The largest network used for each type of topology:**

1. For Gossip:
  - Full Network Topology: 7000
  - Line Topology: 7000
  - Imperfect Line Topology: 50,000
  - Random 2D Grid Topology: 50,000
  - 3D Grid Topology: 50,000
  - Torus: 50,000

2. For Push-Sum:

- Full Network Topology: 2500
- Line Topology: 5000
- Imperfect Line Topology: 5000
- Random 2D Topology: 5000
- 3D Grid Topology: 5000
- Torus: 5000

**Sample:**

1. `./project2 100 torus gossip`  
Convergence Time: 55 ms
2. `./project2 100 torus push-sum`  
Convergence Time: 312 ms

**Part 2 (Bonus) :**

**Execute project2-bonus.zip:**

1. Unzip the folder into your workspace.
2. Make the folder project2-bonus as your current working directory.
3. Run `mix escript.build`
3. Run `./project2 100 {full|line|impLine|rand2D|3D|torus} {gossip|push-sum} 10`

**Where:** 1st parameter is the number of nodes  
2nd parameter is the topology  
3rd parameter is the algorithm {gossip|push-sum}  
4th parameter is the failure node percentage

**Sample:**

1. `./project2 100 impLine gossip 10`  
"Spread is 83.0 %"  
Failed Nodes: 10
2. `./project2 100 impLine push-sum 10`  
"Spread is 86.0 %"  
Failed Nodes: 10