**COP5615 – Fall 2019**

**Project 2 – Gossip Simulator**

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**Steps to execute the project code:**

1. Open the folder in the terminal.
2. Execute:

mix escript.build

1. For Linux: Execute:

./my\_program numNodes topology algorithm

For Windows: Execute:

escript my\_program numNodes topology algorithm

**Steps to execute the bonus code:**

1. Open the folder in the terminal.
2. Set the failure\_type variable found in the main function inside proj2.ex file to “node” or “connection”.
3. Set the failure\_rates variable found in the main function inside proj2.ex file to an integer between 0 and 30.
4. Execute:

mix escript.build

1. For Linux: Execute:

./my\_program numNodes topology algorithm

For Windows: Execute:

escript my\_program numNodes topology algorithm

All the topologies for both the algorithms are working as intended.

**Largest network managed to converge:**

1. **Gossip:**
2. **Full:** 1000 nodes in 1.7 seconds
3. **Line:** 1000 nodes in 3.6 seconds
4. **2D Random Grid:** 1000 nodes in 0.2 seconds
5. **3D Torus Grid:** 1000nodes in 0.2 seconds
6. **Honeycomb:** 1000 nodes in 0.4 seconds
7. **Honeycomb with random neighbor:** 1000 nodes in 0.2 seconds
8. **Push-Sum:**
9. **Full:** 1000 nodes in 16.1 seconds
10. **Line:** 1000 nodes converged in 12.7 seconds
11. **2D Random Grid:** 1000 nodes in 35.9 seconds
12. **3D Torus Grid:** 1000 nodes in 10 seconds
13. **Honeycomb:** 1000 nodes in 28.2 seconds
14. **Honeycomb with random neighbor:** 1000 nodes in 4.9 seconds