

Project Report Bonus

Gossip Algorithm

- Gossip algorithm implementation is fault tolerant.
- I have calculated the fault tolerant percentage by keeping the number of nodes constant as 100 and then testing different topologies for increasing number of failure nodes.

Observed Output is:

Name of topology	No of failure node out of 100
Line	7
Full	99
2D	99
2D impatient	99

Above table shows,

- **Line topology** fails to converge when number of failure node increases more than 7.
- **Other three topologies** converge for any number of node failure from 1 to 99.

Conclusion: Thus we can say that Gossip algorithm converges for the **full, 2D, 2D imp** topologies. Thus they are 100 percent fault tolerant.

Note: project2bonus.scala takes input in the form:

```
scala Project2bonus number_of_nodes topology algorithm no_of_failure_nodes
```

For e.g. scala project2bonus 100 line gossip 7