## **Project 3 Bonus – Tapestry algorithm**

Since this network is **fault tolerant**, there are no chances of failures. Hence we explicitly fail the nodes to test for failure conditions.

- In case of a dead node, no messages will be routed through it.
- A replacement node (node with max prefixes matching) is supplied to the routing tables which contains this dead node.
- If the destination node turns out to be a dead node, message passing stops there itself, with that hop being the last hop

We have tested for all ranges of failures:

- 1% to 94% of failure accurately finds the replacement nodes for the dead nodes
- >=95% of failure is just discarded as the argument and System is halted, since this can result in inconsistency for very small ranges of nodes. Also, this scenario is unrealistic

Also, we have tested for node ranges to 5000.

Temporary failures are handled by **GenServer policy of :one\_for\_one**, so that in case a node is temporarily overloaded or crashes, other nodes aren't affected and the program execution doesn't stop.