TEAM MEMBERS

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What is working

1) Gossip with all topologies tested till 5000 nodes for each toplogy
2) Push sum with all topologies tested till 5000 nodes for each topology

For testing the random failure I have implemented the supervisor in my class gossip_simulator

Line 5, 6, 7 in gossip_simulator.ex

```
{:ok, super_pid} = GossSim.start_link(args)
IO.inspect (super_pid)
IO.inspect (Supervisor.which_children(super_pid)), label: "The child processes are"
```

I start the supervisor and and gets its pid back and then list all its children started.
In line 58 and 60 of the same class, I init the children like

```
children = get_child_list([], num_of_nodes, Enum.at(args, 2))

Supervisor.init(children, strategy: :one_for_all)
```

As such all the processes are not in the supervision. I finally pass these and keep a tab on them. To implement the failure model, I have done

```
if counter == 5 do
Process.exit(self(), :kill)
```

In gossip_node.ex Line 19 and 20.

Here the process is tried to be kiiled when the counter reaches 5 and as such the supervisor restarts it.

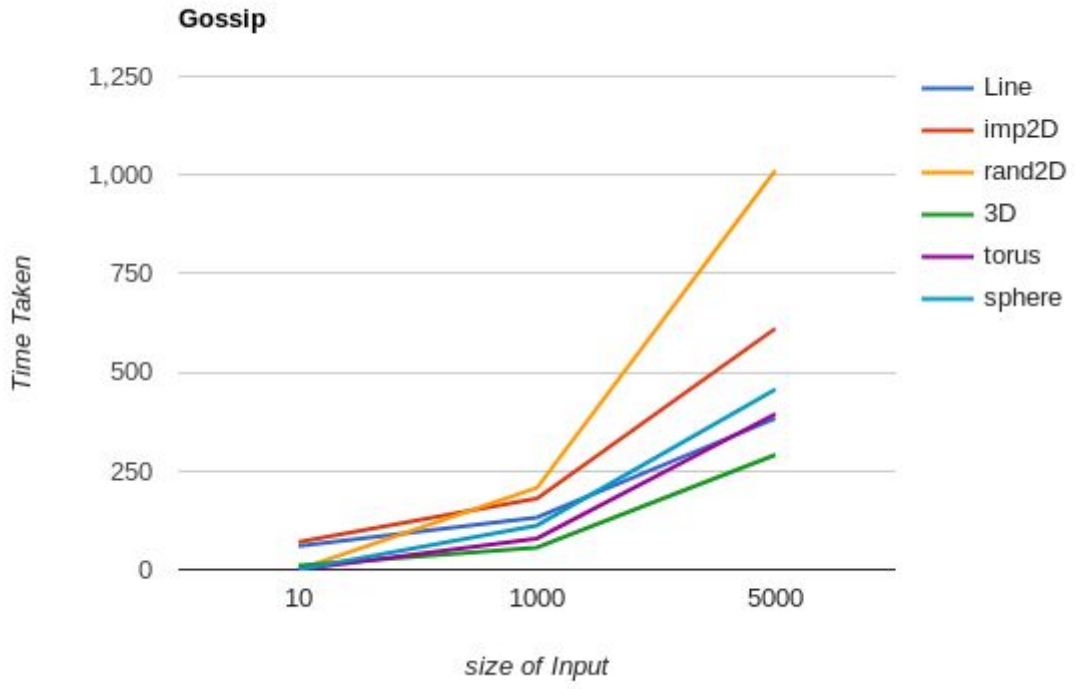
I confirm it by doing an inspect on creating the process and listing the pids and then again listing all the pids in the end which were different. That output would display on the console when you run the program.

I did a comparison by killing the process when counter reaches 5 and then comparing with the result of counter reaching 3. While the convergence time increases when I kill the process at 3 since more kills would be there at counter 3 than 5. While the graph cannot show this beacuse the shape remains same and scale is too large to infer.

Counter is the number of times a message is received by the node

GOSSIP PROTOCOL- kill at 5 counter

	10	1000	5000
Line	63	134	397
imp2D	65	186	630
rand2D		209	2869
sphere		115	465
torus		81	393
sphere		119	471



PUSH SUM

	10	1000	5000
Line	10	4903	35702
imp2D	23	7041	16654
3D	6	4713	134122
torus	4	5098	101277
sphere	4	4493	random_convergernce