Waves in distributed systems: the token approach

Today’s objective is to deploy processes and have a token follow a predefined path between them. All spawned processes should halt once the message has gone through.

Question 1

a) Write a function which moves a token back and forewards $M$ times between two different processes. After the messages have been sent, all spawned processes should terminate gracefully.

![Figure 1: Ping/Pong topology](image)

b) Write a function which moves a token $M$ times around a ring of $N$ processes (with $N > 2$). Note that if $N = 2$ we fall the ping/pong topology. After the messages have been sent, all spawned processes should terminate gracefully.

![Figure 2: Ring topology](image)
c) Write a function which moves a token $M$ around a star of $N + 1$ processes (with $N > 1$ the number of peripheral processes). After the messages have been sent, the processes should terminate gracefully.

![Star topology](image)

Figure 3: Star topology

**Bonus**

Deploy a real distributed system by running the ping/pong topology between two different Erlang instances running on different machines.