

# Algorithm

Implement the hierarchical network in the model

## 1. Deterministic:

- a. Set a generation counter which counts current generation initialized to 1. Each turtle has a copy number, initialized to 0.
- b. Make the initial central module of 'n' nodes and connect all agents with one another.
- c. Create copies by hatching turtles 'n-1' times and replicating links of each with their respective parent.
- d. Connect the peripheral nodes of the newly hatched turtles to the central node of the central module.
- e. Repeat step c indefinitely.

## 2. Stochastic

- a. Connect a fraction  $p^{\text{generation-count}}$  of the newly hatched turtles to the central module using preferential attachment.
- b. Make 'n-1' copies of the newly formed module.
- c. Repeat step a indefinitely.