


## EXERCICE 3. OPINION DIFFUSION



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# EXERCICE 3. OPINION DIFFUSION

- **Aim:**

The aim of this aspatial model is to simulate the opinion diffusion in a population of agents.

- **Description:**

An opinion is represented by a numerical float value between 0.0 and 1.0 (initialized with a random value).

At each step, agents choose a random other agent and update their opinions as follows.

If agents  $x$  and  $y$  update their opinions, their opinions will become:

$$\begin{aligned} \text{opinion}_x(t+1) &= \text{opinion}_x(t) + \text{speedConvergence} * (\text{opinion}_y(t) - \text{opinion}_x(t)) \\ \text{opinion}_y(t+1) &= \text{opinion}_y(t) + \text{speedConvergence} * (\text{opinion}_x(t) - \text{opinion}_y(t)) \end{aligned}$$

- **Inputs:**

The parameters of the simulation are the number of agents and the speed of convergence (speedConvergence) that is a number in  $[0.0, 1.0]$ .

- **Output:**

Plot the opinion of each agent.

What do you observe ?

```
chart "my chart" type: series {  
  loop ag over: my_agents {  
    data ag.name value: ag.my_variable color: #blue;  
  }  
}
```

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- **Improvement:**

Agents with opinions very far will not influence each other's. To reproduce this, add a new attribute threshold representing the threshold of influence: if the difference of opinions between the agents is greater than this threshold they will not influence each others.

What do you observe on the plot?