

Question 1

In this exercise we will explore consensus modelling in swarm systems.

- a) Could you explain the *voter model* and characterize its performance?
- b) Could you also describe and characterize the *majority rule*?
- c) Given a network of 5 agents, each located at position x, y and of 2 possible states s describe by the tuple $(x, y, s = \{0,1\})$

$(0, 0, s = 0), (5, 0, s = 1), (4, 7, s = 1), (2, 5, s = 0)$ and $(0, 4, s = 1)$

Could you track one iteration of the consensus process for this population using both models?

- d) Optional: Simulate the general case when there are N agents of O opinions. How does the two models compare?