Assignment #1

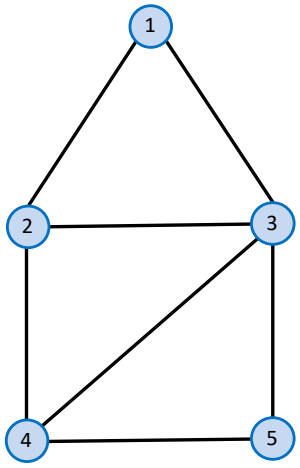
Consider the platforms for simulation of multi-agent systems. The partial list of the platforms can be found here:
https://doi.org/10.48550/arXiv.2007.08961

1. Download a platform of your choice and learn how to use it. You should familiarize yourself with one of the simulation platforms.

2. Then develop the simulation for the consensus algorithm of 5 agents in two-dimensional space with the following consensus dynamics

$$\dot{x}_i(t) = \sum_{j \in N(i)} (x_j(t) - x_i(t)) \ . \tag{1}$$

where $N(i)$ is the set of neighbors for the agent i, $i = 1,2,3,4,5$. If you prefer, you can use a discrete-time form of the consensus dynamics.



3. Prepare the report that includes your own code and prepare to run a live demo for the TA of this course.