

## Closed Lab 7

## Fun with Graphs

Description: This assignment is more open-ended than most. You will create a graph using `matplotlib.pyplot`. Have fun and good luck.

Details:

- The data you will use are in the very cleverly-named file `data.txt`. This file consists of 101 lines. Each line represents one timestep in a swarm simulation. In each timestep, each agent evaluates the state of the world and chooses one task to undertake based on that state and several local values. All lines have the same format and contain multiple data values. The value we are interested in is the number of task switches, which represents the number of agents that performed a different task in that timestep than in the previous timestep. That value appears after the string `num_switch`.
- Create a graph using that data. You must choose the type of graph you want to create to best represent the data.
- Once you have a basic graph, begin to customize it and add features. Use some of the graphs we saw in class as examples. Include features such as a title, axis labels, etc. The features will likely depend on the type of graph you choose.
- The student who creates the **Most Beautiful Graph in the Class**<sup>™</sup> will win the only prize that matters: the undying admiration of their peers.