Assignment 12: Simple AgentCubesOnline Models

NOTE: *in AgentCubesOnline, once you have a model, you can easily make a copy of that model to edit and extend to make a new model:* Once you select your model, under the "PROJECT MANAGEMENT" button, copy the model, which can then be renamed to whatever is appropriate.

I. Models based on "a thing moves randomly in the world." Build these models (as separate models: build the first, make a copy, add the extra feature; make another copy add the extra feature).

 a) Several flies fly randomly in a room and leave if they reach a single window along one side.

 b) Several flies fly randomly in a room and leave if they reach a single window along one side. Every so many seconds, a fly enters the room from the same window.

 c) Several flies fly randomly in a room and leave if they reach a single window along one side. Every so many seconds, a fly enters the room from the same window. You can swat flies with your hand.

II. Models based on "two things interact and something happens." Build these models (as separate models).

 a) Here is one possible story for a "Healthy – Sick" Interactions:
   If a healthy person is next to at least one sick person, there is some chance that the healthy person changes into a healthy person. Healthy and sick persons both move randomly on campus. Run the model for different numbers of healthy and sick persons and for different chances of getting sick.

 b) Add some recovery method. START WITH A STORY OF RECOVERY. For one approach, see:

   http://www.shodor.org/interactivate/activities/SpreadOfDisease

 c) Wolves move randomly in a field, have some chance of generating a new wolf, and if they see a rabbit directly in front of them eat that rabbit; at any given time, there is some small but increasing chance the wolf will die. Rabbits move randomly in a field and have some chance of generating a new bunny. Think about ways to make your model "more realistic." Try at least one STARTING WITH THE CHANGE IN STORY. Run your model many times. What kinds of results can you observe? Can you find ways to make the two populations "stable"?