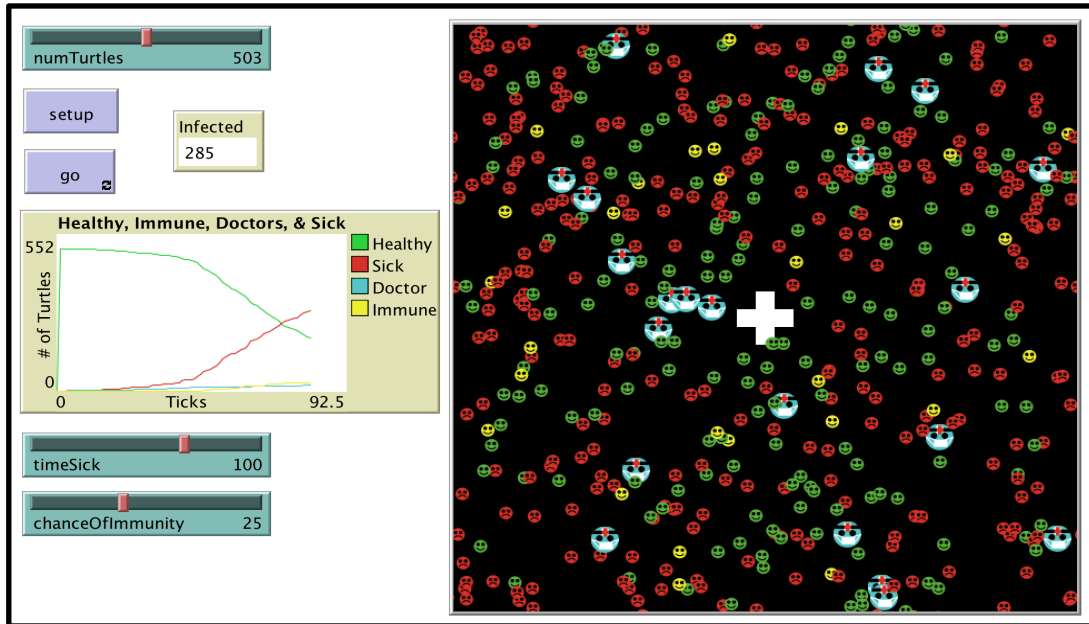


CS108L Computer Science for All

Module 7 Intro

Build Your Own Epidemiology Model



Module Overview:

In this lab, you will design and build a program that models the spread of a contagious disease through some population. You can choose the disease, an appropriate affected population, and the model's specific parameters. Some examples:

- Hantavirus in humans or mice
- Rabies in bats or raccoons
- Bird flu in humans or birds
- Root diseases in New Mexico pistachio trees

You will use the scientific method to investigate a specific aspect of your chosen disease and compose the results of your investigation into a brief report.

NOTE: There are two parts to this assignment, each worth 20 points.

Module 7 Part 1: Epidemiology Grading Rubric (20 Points Total)		
Done	Points	Task
	2	A: <ul style="list-style-type: none"> • Submit a NetLogo source code with the file name: M7P1.<i>firstname.lastname</i>.nlogo. • The first few lines of your program are comments including your name,

		<p>the date, your school, and the assignment title.</p> <ul style="list-style-type: none"> • The NetLogo file may be a very rough draft, but it must have at least some code (variables, procedures, etc.)
	8	<p>B:</p> <ul style="list-style-type: none"> • Submit an outline of your epidemiology model which is designed to test your prediction, including parameters, variables, agents, agent behaviors, etc. • Make it clear what you are modeling and how you are translating concepts into code.
	10	<p>C:</p> <ul style="list-style-type: none"> • Submit a report that contains a sentence or two addressing each of the 4 steps of the scientific method addressed during Part 1. • Make sure that you convey your ideas clearly. Check with an instructor if you would like guidance.
Module 7 Part 2: Epidemiology Grading Rubric (20 Points Total)		
Done	Points	Task
	1	<p>A:</p> <ul style="list-style-type: none"> • Submit a NetLogo source code with the file name: <i>M7P2.firstname.lastname.nlogo</i>. • The first few lines of your program are comments including your name, the date, your school, and the assignment title.
	1	<p>B:</p> <ul style="list-style-type: none"> • The code has appropriate in-line comments, including annotations for which partner coded which parts (if working with partners).
	2	<p>C:</p> <ul style="list-style-type: none"> • The Info tab is clear and complete, and includes the disease you modeled, the abstractions you made, and instructions for how to use it to reproduce your results.
	6	<p>D:</p> <ul style="list-style-type: none"> • Your NetLogo code runs and models some interesting aspect of some disease, as described on your Info tab.
	3	<p>D:</p> <ul style="list-style-type: none"> • Submit a clearly labeled spreadsheet of your experimental data. Make sure you title it, label your columns/rows, and give units of measurement where applicable.
	7	<p>E:</p> <ul style="list-style-type: none"> • Submit your final report • (minimum 1 paragraph) Was your prediction accurate? How did the



		<p>results of your model support or disprove your hypothesis?</p> <ul style="list-style-type: none">● One or two sentences for each of the following:<ul style="list-style-type: none">○ What worked well in your model and what did not?○ How, if at all, did you use randomness in your model? Why?○ How could you extend this model to a new disease, a new environment, etc.?○ What other hypotheses/predictions could you use it to test (either with or without modification)?
	3	<p>F: Extra Credit</p> <ul style="list-style-type: none">● You create one or more clearly labeled graphs of your experimental results or data that explain some component of your model or results. <i>Briefly</i> describe these graphs and what they show in your report.