* Given the information above, what do you think our beta and gamma values should be set to, and why? [3]
  + I think that it depends on the disease it is simulating this is because in order for the simulation to be accurate it must use realistic variables otherwise it would be unable to predict the amount of people infected and recovered over time.
* Using the above values, what percentage does SIRs predict will become infected at the end of 100 days? How far off is our SIRs model from reality, and why do you think this is the case? [4]
  + 0.0003167356694808903
  + This is rather unrealistic because its almost zero which means people will almost never catch this disease. Even diseases which are easily cured such as colds infect a sizable amount of people per year. Therefore unless this is a simulation of a extinct disease its not very accurate.
* In what way does a 2D visualization (ie. your graph) make it difficult to determine what the real results of you running the simulation are? How could the graph be modified to fix this? [3]
  + Through a 2D graph we cannot really track the spread of disease which this model is supposed to do. This is because we can only see the percentage of the population that got infected or was cured or is susceptible to the disease. To fix this we could make a 2D image of a map with different colored dots which show whether the people in this country is susceptible or if people in that country is infected. This way we can see how it spreads from a single starting point.
* Keeping the beta and gamma values the same, what can you adjust in order to get the model to match reality? [2]
  + You could increase the number of steps to track the disease for a longer period of time or maybe add death into the model because death is likely to occur with most existing diseases. If you want the model to be even more complicated you could even have different infection and recovery rates for different people due to environment and availability of medicine.
* Given a scenario where 0.1% of the population is initially infected with a disease, give two distinctly different combinations of beta and gamma that could be used in order to assure that about 50% of the population has at one point been infected. Explain why your chosen values work. [5]
  + Values:
    - 1.
      * Gamma=0.01
      * Beta=0.05
    - 2.
      * Gamma= 1
      * Beta= 0.5
  + The reason these values work is because I have tested them in the simulation and the Gamma/Recovery rate is five times less than Beta/Infection rate. Therefore 50% of the population would be infected due to the people recovering is five times less than the people getting infected.