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Contents

Chapter 1

SIR Modeling

1.1

Question 1: 1

The goal of this problem is to get you over any barriers with (i) getting Python set up, (ii), getting the SIR model implemented in a Forward Euler solver, and (iii) getting matplotlib set up. Write a function in Python that uses the Forward Euler method to simulate the SIR model. Check your work by first reproducing the three plots from Figure 1 of the Week 2 lecture notes. The parameters are: N = 1000, I0= 1, S0= 999, with

- $\beta = 1$, $\gamma = .5$
- $\beta = 1$, $\gamma = .5$
- $\beta = 1$, $\gamma = .5$

Show that your code works by simply reproducing the plots exactly, but with your first name included in the legend labels, e.g. "S Dan", "I Dan" or something. Link to your code and turn in simply the 3 plots.