Modeling and Simulation, CS302

Lab-5 (Part-2)

In this lab we look at one of the pioneering works in modeling infectious respiratory disease (SARS) via compartment model. The paper was authored by Lipsitch et. al. and appeared in Science in 2003. This lab should be considered as an extension of Lab-5 and hence will be a part of the same report. It is suggested to go through both the relevant material from the book (already provided) and the original paper.

1. **(Modeling SARS)** Read the SARS model and using Fig. 6.2.4 obtain the set of differential equations.

   (a) From the set of differential equations implement and comment on project questions $5-7$.

   (b) Work on question 8 and discuss your findings.

   (c) By reading the original paper by Lipsitch *et. al.* try to extract the parameters and understand the various interventions discussed in it. Reproduce Fig. 6 in the original paper and include a short summary in the lab report.