Drug Dosage Model

This is a summary of the materials you have at your disposal for the drug dosage project and some guidance on how to get started.

1. Read the overall competition instructions for an overview of the nature of the materials you have received
2. A document summarizing the model framework, background information, modeling parameters, instructions for completing both the basic model and bonus modeling assignments. (Pharmecokinetic Model of Drug Dosage and Concentrations).
3. There are two references explaining more about the modeling drug absorption from the simplest model, analogous to the one you are executing, to more complex representations of the system. After you look over the instructions, you should check these articles for a deeper understanding of the system you are modeling.
4. A starting code in Python to guide you through what you need to do to complete the basic project. (Drug_dosage_model.py). You should have Anaconda installed on your computers to open this document (use Spyder).

Before you start coding, make sure you fully understand the modeling assignment and the mathematics behind this simplified model of drug absorption. The sample code has been divided into multiple cells dividing the definition of inputs and discrete sets of outputs. This should allow you to add and test portions of the code incrementally. For each portion, once you have inserted the additional code, you should have Python evaluate the completed sections and debug any coding errors. You should also check on the intermediate numerical results to make sure they make logical sense.

While part of your team is working on the code, others should read the references more thoroughly so that your team can answer the questions about how this model simplifies the real system. They can also begin to investigate some of the bonus questions so that you are prepared to add one or more of these once the basic model is complete.

Make sure your basic model and the associated report showing recommended sensitivity analyses and answers to the other basic question are complete before you launch into bonus additions to the model. Teams will be judged first on the completeness of their basic model and the associated report. The bonus sections will then be added to the total score.