

MA 331  
Fall 2017  
Homework 8: Simbiology  
Due: 11/16/17

Name (Print): \_\_\_\_\_

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- 1.) Consider the US Population Growth Data from 1950-2015.
- Fit parameters  $r$  and  $K$  for the logistic growth model  $y' = ry \left(1 - \frac{y}{K}\right)$ . Include a graph of the output of your model and data.
  - Fit parameters  $r$  and  $K$  for the Gompertz growth model  $y' = r \ln\left(\frac{K}{y}\right) y$ . Include a graph of the output of your model and data.
  - How does the estimate for intrinsic growth rate,  $r$ , and carrying capacity,  $K$ , differ for each model? Which model do you think has a better fit to the data and why?
- 2.) Write a paragraph description of your proposed project. Note: You are not required to complete your project on the topic you propose here, but I want to get an idea of what everyone is working on.