

# Mathematical Biology, *Kazanci*

## Homework Assignment 1 (*due 2/5/08*)

1. Exercise 2.4.2 from textbook<sup>1</sup>.
2. Exercise 2.4.5 from textbook.
3. Exercise 2.4.6 from textbook.
4. Exercise 2.4.10 from textbook.
5. Exercise 2.4.13 from textbook.
6. Exercise 2.4.14 from textbook.
7. Consider the logistic equation given in section 2.2.3.
  - (a) Modify the code `bifurcation.m` to reproduce Figure 2.13 (page 24), along with the corresponding Liapunov exponent plot<sup>2</sup>.
  - (b) Focus on the interval  $3.6 < r < 4$  and generate both the bifurcation and liapunov exponent plots. Write your observations.

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<sup>1</sup>Use the method given in Lecture 2 for stability analysis where appropriate.

<sup>2</sup>Submit a soft copy of your code to `caner@uga.edu`. Please submit a printed version of your code and the outputs (graphs) with your assignment as well. For 2(b), submit only the graphs, not the code.