

Homework # 2 solutions to computer problems

Lab Visit 1: The code for this problem is labeled `beetle.m`.

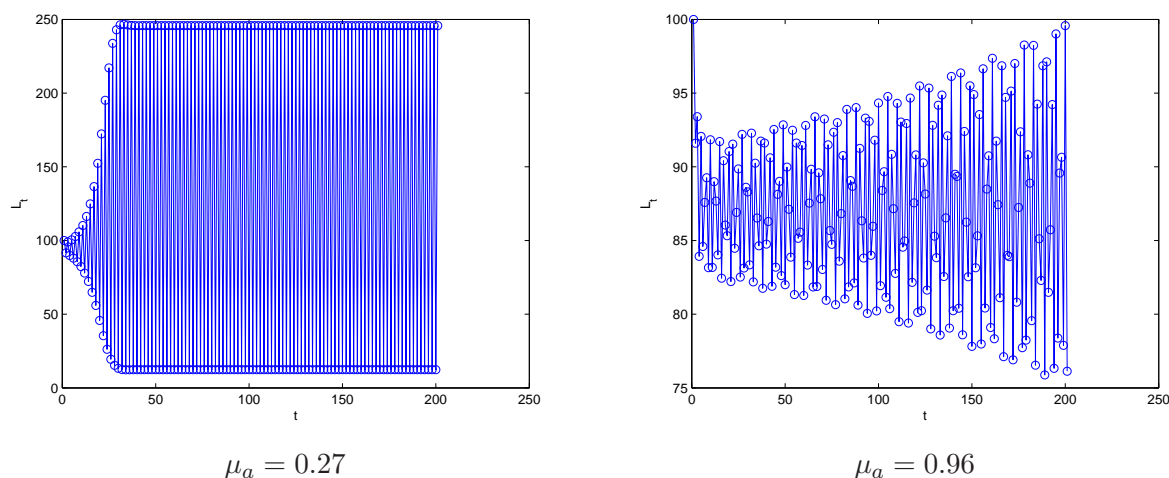
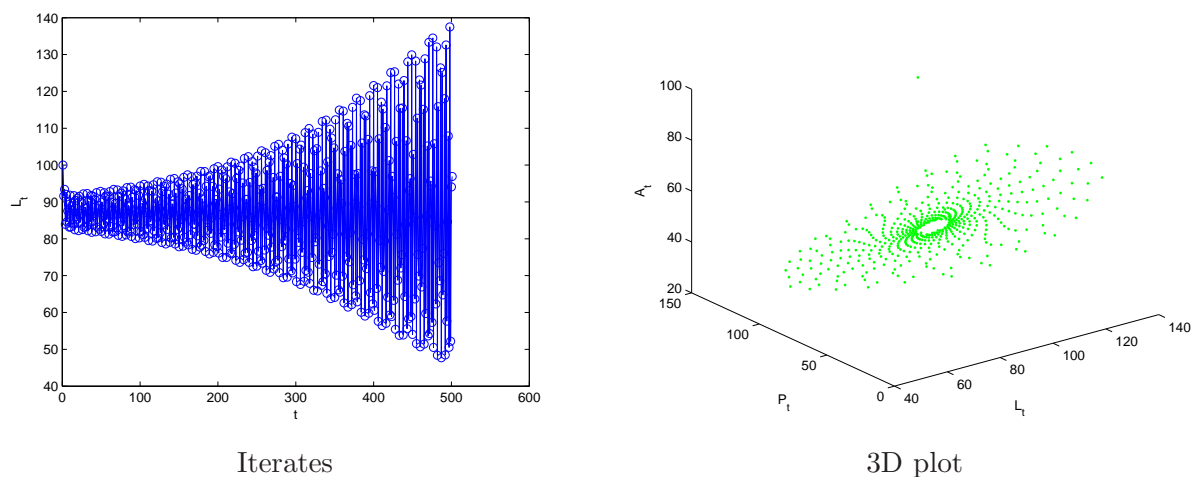


FIGURE 0.1. Plots of L_t vs t .

(a) When $\mu_a = 0.27$, there is a 2 periodic orbit. When $\mu_a = 0.96$, there is an aperiodic orbit.



- (b) The aperiodic orbit is a very cool spiral.
- (c) We know from class that if an iteration is sensitive to initial conditions then it results in Chaos. To test this, we can perturb the initial condition by some ϵ . After performing the experiments, it does not appear that the system is chaotic.

Comp Exp 2.1 The point is when $a = 1.2674$. See code `henonparam.m`