

Orbit diagram of the logistic map

The orbit diagram is also called *incorrectly* the Feigenbaum diagram, fig tree diagram or simply bifurcation diagram (a bifurcation diagram that shows only the stable fixed points and period-p points).

The logistic map is given by

$$x_{n+1} = rx_n(1 - x_n), \quad x_0 \in [0, 1], \quad r \in [0, 4], \quad n = 1, 2, 3, \dots, \quad (1)$$

where r is the control parameter. Figure 1 shows the orbit diagram.

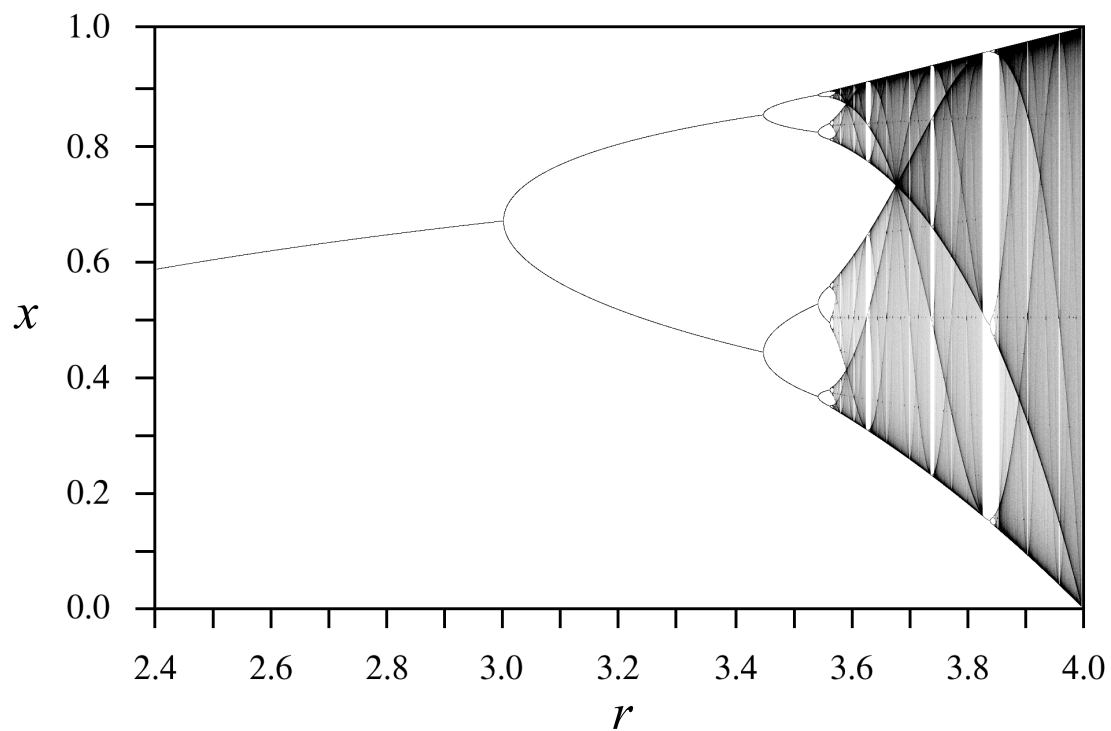


Figure 1: Orbit diagram of the logistic map.