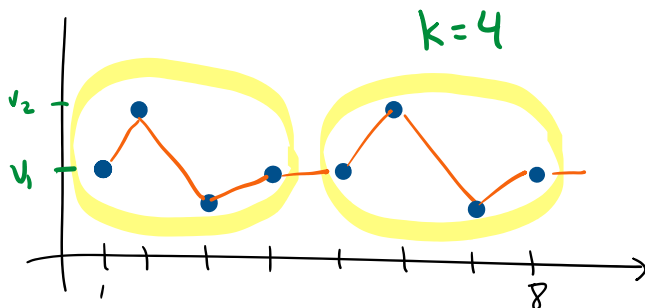


# The Feigenbaum Constant

$$\delta = 4.699\ 201\ 609\ 102\dots$$

Algorithm: hasKCycle

return True if a trajectory (nearly) repeats with period  $k$ , and false otherwise



$$\text{vec 1: } \langle v_1, v_2, v_3, v_4 \rangle$$

$$\text{vec 2: } \langle v_5, v_6, v_7, v_8 \rangle$$

$$\text{vec 1} - \text{vec 2}$$

check if all entries are close to zero

Search for bifurcation values:

Suppose we want to find where a 4-cycle bifurcates into an 8-cycle.

That is, we want to find the largest  $r$ -value where a 4-cycle occurs.

binary search

