Python Code

MAT 335 – Chaos, Fractals, and Dynamics – Fall 2013

Submit your solutions to the following problems from the textbook.

Attached you can find the code I made to plot orbits.

To run it you must load it into python: `execfile('3_orbirs.py')`
It has the following functions:

- `i_orbit_F(function, seed, iterations, plot limits)`
  - function = string with the formula for the function. Ex: 'x**2-1' for $x^2 - 1$ (with the quotes).
  - seed = real number x_0
  - iterations = maximum number of iterations to plot
  - plot limits = $[\min x, \max x, \min y, \max y]$

  when it runs, it plots the first segment of the cobweb representation:
  - press `enter` to continue to the next segment
  - press `r+enter` to run all the iterations
  - press `q+enter` to stop

  in the end it returns all the points x_n in the orbit
- `plot_orbit(function, seed, iterations)`
  - function = string with the formula for the function. Ex: 'x**2-1' for $x^2 - 1$ (with the quotes).
  - seed = real number x_0
  - iterations = maximum number of iterations to plot

  in the end it returns all the points x_n in the orbit