Comp Econ Homework Set 2

Date 12 Feb 2016

Due Date: 18th Feb 2016

Consider a market with demand curve

$$y = ap^{-\epsilon}$$

and supply curve

$$y = \exp(bp) - 1$$

The Matlab files `demand.m`, `supply.m` and `main.m`, which are borrowed from Tony Smith's comp econ course, solve for equilibrium prices and quantities. In particular, they use a bisection algorithm to search for the pair (p, y) such that both equalities are satisfied. The parameters are set to $a = 1$, $b = 0.1$ and $\epsilon = 1$.

- https://en.wikipedia.org/wiki/Bisection_method

Exercise 1. In a Jupyter notebook, write a Python function that takes (a, b, ϵ) as its arguments and returns the equilibrium price. The simplest way is to turn the Matlab code provided into valid Python code.

Use the function you have just written to compute equilibrium prices at the following values of (a, b, ϵ): (1, 0.1, 1), (2, 0.1, 1), (1, 0.2, 1), (1, 0.1, 2). Your output should be displayed in the same Jupyter notebook.

Submit your notebook file (the ipynb file) via pull request to

https://github.com/jstac/quantecon_nyu_2016_homework

Add your solution as a file to the directory `hw_set_2`. The name of your file should be `firstname_lastname.ipynb`.

Add the following information at the top of the notebook: Name and student or university ID. A simple and brief description of the problem.