# Econ 101 Honors Section

# Graded, In-Class Programming Project

$N$ quantity-choosing firms are competing in a Cournot game. The market inverse demand curve is:

$$p = a - bq$$

and each firm $i$ has a total cost function:

$$C_i = c_i q_i + d_i q_i^2$$

So, the firms are heterogeneous in their costs. The list of $a$, $b$, $c_i$ and $d_i$ are given in data_cournot.txt. The first line tells us $N$. The next two lines tell us $a$ and $b$. The next $N$ lines tell us the values of $c_i$. The last $N$ lines tells us the values of $d_i$. Write a Python script that solves for the Nash equilibrium quantities chosen by each firm and prints them out.

**Due: End of class, Friday June 7th**

**Instructions:**

Before class, I will upload data_cournot.txt and a skeleton script, project.py, to get you started. You will have to fill in the blanks in project.py and then upload it to the programming project assignment which was created in CCLE. I will then run your script against another dataset and see if it produces the right results. You can get started on it early if you want, but I will not upload data_cournot.txt or project.py until right before class.

**Make sure you bring your computer to class on Friday June 7 and that you are able to access the course website, as you will need to upload the script by end of class**.

**Grading**

- Attendance, but no project turned in: C
- Attendance, with unsuccessful project: B or B+, depending on the type of error
- Attendance, with successful project: A