ECON 321, Assignment 4:
BP, Chapter 3: 3.2

1. Read 3.2.1, this is another version of Cournot. This time the products are perfect substitutes in demand so every quantity has the same coefficient in the demand curve. Let's use demand curve $p(q) = 10 - 2.5q$ where q refers to the *sum* of the production of all the firms, and instead of 2 firms there are n firms.

2. Write down the profit function π_i and the first order condition and reaction function (equations 3.3 and 3.4 in the book). Remember we're using $a = 10$, $b = 2$, but we have to leave c_i as a parameter because now we're talking about firms with different costs.

3. From here on, let's assume there are just two firms, which means that (3.4) collapses to 2 reaction functions which are shown under the subsection "Cournot duopoly." What are the equilibrium quantities and profits if $c_1 = c_2 = 1$? What about $c_1 = 1$ but $c_2 = 2$? Show on a reaction function diagram.

4. Read the rest of Section 3.2 which we will talk about in class.