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1. Instructions for Using the Interactive Graphs

In order to use the interactive graphs, you must install either *Wolfram Player* or *Mathematica*. *Wolfram Player* is available for free from Wolfram Research at https://www.wolfram.com/player/. **Note:** The interactive graphs are still being developed and will likely contains bugs. Any feedback would be greatly appreciated.

1.1. Cournot Competition with Homogeneous Products – Best Responses and Profits Levels. This graph illustrates a number of features of the homogeneous goods Cournot duopoly model in (q_i, q_j)-space. The market has inverse demand function

$$p = a - bq_i - bq_j$$

and the firms produce at constant marginal costs c_i and c_j, respectively. The graph illustrates the Cournot equilibrium point (q_i^C, q_j^C) as a green dot and the two monopoly points $(q_i^M, 0)$ and $(0, q_j^M)$. Note that for asymmetric costs, the Cournot equilibrium need not lie on the diagonal line. The graph allows you to change the cost and demand parameters of the model. The sliders for k_i and k_j allow you to study how each firm ranks different points along its own best response curve for any point between the monopoly point and the Cournot equilibrium point. For $k_i = 0$, the graph shows the iso-profit curve reached by firm i in the Cournot equilibrium. For $k_i = 1$, the graph shows the iso-profit curve for firm i in the monopoly point $(q_i^M, 0)$, the point preferred by firm i. The slider k_j does the same for firm j.

Experiments: Use this graph to better understand what happens to the location of the reaction curves and the Cournot equilibrium quantities when the cost and demand parameters change. E.g., what happens when one of the firms' costs increase? What happens if the costs of both firms increase by the same amount?

Controls	**Description**
a	Demand intercept
b	Demand slope
c_i, c_j	Marginal costs
k_i, k_j	Weights on monopoly points in iso-profit curves
Bugs: None known.	