CORTO OPTIMIZACIÓN- DAVID CORZO

Empresa produce A, B:

A: Q2
B: Q3

$$q_A = 400(P_B - P_A) \qquad q_B = 400(9 + P_A - 2P_B)$$

P_A & P_B son precios de venta

Maximizar precios de venta:

$$q_A = 400P_B - 400P_A$$

I: Demanda x Precio

$$q_B = 3,600 + 400P_A - 800P_B$$

Ingresos: $q_A P_A + q_B P_B$

Costos: $2q_A + 3q_B$

$$u(P_A, P_B) = (q_A P_A + q_B P_B) - (2q_A + 3q_B)$$

$$u(P_A, P_B) = \left[P_A 400(P_B - P_A) + P_B 400(9 + P_A - 2P_B)\right] - \left[800(P_B - P_A) + 1,200(9 - P_A - 2P_B)\right]$$

$$u(P_A, P_B) = 400P_B P_A - P_A^2 + 10,800 - 1,200P_A - 2,400P_B$$

$$\frac{\partial u}{\partial P_A} = 400P_B - 2P_A - 1,200 = 0$$

$$\frac{\partial u}{\partial P_B} = 400P_A - 2,400 = 0$$

$$P_A = \frac{2,400}{400} = 6$$

$$400P_B - 2(6) - 1,200 = 0$$

$$P_B = \frac{1,212}{400} = \frac{606}{200} = \frac{303}{100}$$

$$P_A = 6 \qquad P_B = \frac{303}{100}$$