Boulevard

		Delivery	No Delivery
Jackpot	6:00 P.M.	$35, $30	$55, $20
	9:00 P.M.	$25, $50	$45, $40

3. Jackpot Florist and Boulevard Gardens share the market for floral bouquets in Tuliptown. Jackpot is deciding whether to close at 6:00 P.M. or to close at 9:00 P.M., and Boulevard is deciding whether to offer Delivery or No Delivery. The payoff matrix above shows the annual profits for each combination of actions that the firms can choose. The first entry shows Jackpot's profit, and the second entry shows Boulevard's profit.

   Assume that both firms know all the information in the matrix and act simultaneously and independently.

   (a) Is Jackpot's dominant strategy to close at 6:00 P.M., to close at 9:00 P.M., or does it not have a dominant strategy?

   (b) Suppose Jackpot chooses to close at 6:00 P.M. and Boulevard chooses No Delivery. Is this the profit-maximizing action by Boulevard? Explain using values from the payoff matrix.

   (c) How much profit will Boulevard earn in the Nash equilibrium?

   (d) Suppose these two firms merge to form one company with two locations and still face the same actions and payoffs. Which strategies would the new company choose to maximize its combined profit?

   (e) Now assume that instead of merging, Jackpot proposes a plan to cooperate with Boulevard. Jackpot would agree to close at 9:00 P.M., and Boulevard would agree to No Delivery. If either firm breaks the agreement, it MUST subtract $12 from its profit that is then added to the other firm's profit.

      (i) Assuming the agreement was in effect and enforced, redraw the matrix, including the players, actions, and payoffs.

      (ii) Assuming Boulevard is a profit-maximizing firm and there are no antitrust concerns, would Boulevard agree to Jackpot's proposal? Explain using specific values from the redrawn payoff matrix.

STOP

END OF EXAM

Question 3

6 points (1 + 1 + 1 + 1 + 2)

(a) 1 point

- One point earned for stating that Jackpot Florist's dominant strategy is to close at 6 p.m.

(b) 1 point

- One point is earned for stating that this is not the profit-maximizing action by Boulevard Gardens and for explaining that Boulevard will earn $30 by choosing Delivery instead of $20 choosing No Delivery.

(c) 1 point

- One point is earned for identifying the profit for Boulevard Gardens in the Nash equilibrium as $30.

(d) 1 point

- One point is earned for stating that they would choose to close at 9 p.m. and offer No Delivery.

(e) 2 points

- One point is earned for redrawing the payoff matrix showing the effect of the agreement.

		Boulevard	
		Delivery	**No Delivery**
Jackpot	6 p.m.	$35,$30	$43,$32
	9 p.m.	$37,$38	$45,$40

- One point is earned for stating that Boulevard will agree to Jackpot's proposal and for explaining that Boulevard will be better off because this will increase the payoff from $30 to $40.