

STRATEGIC THINKING

Problem Set 3

Note: To be handed in by Groups: 5, 11, 13, 15, 17, 19

1. In the following simultaneous-move game, the row player can choose T, M, or B; the column player can choose L, C, or R, as shown in the payoff matrix. If row chooses T and column chooses L, the payoffs are row gets 2 and column gets 0.

	L	C	R
T	2, 0	1, 1	4, 2
M	3, 4	1, 2	2, 3
B	1, 3	0, 2	3, 0

- a. Which strategies survive iterated elimination of strictly dominated strategies? Explain.
 - b. Which (if any) are the pure-strategy Nash equilibria? Explain.
2. Two firms compete to sell an identical item. They compete by setting prices, and then producing enough to satisfy demand. Each incurs a constant per-unit production cost of \$5.
 - a. Formulate the strategic problem of what price to charge.
 - b. What price will rule in the market? Explain.
 3. Game theory plays a very important role in business strategy when the payoff to an action is often contingent on the actions of rival firms, and threats (credible and otherwise) are often employed. One of the important strategies open to a firm is the lawsuit. Read the newspaper clipping at the back and then answer the questions.
 - a. What are the strategies referred to in the article?
 - b. What were Borland International's and Lotus Development Corporation's strategies contingent on? (That is, what triggered their actions?) Explain in detail.

- c. What was Borland trying to accomplish with its suit?
- d. Does the ruling in favour of Lotus Development Corp. in the Paperback Software case place it in a position to make credible threats? What can it threaten? Relate your answer to entry into the electronic spreadsheet industry.
- e. In this situation, Borland was faced with the decision whether or not to file suit as soon as Lotus won against Paperback Software. That decision depended not only on the probability and payoff of winning the suit, but on whether Lotus would sue Borland if Borland didn't sue first. In situations like this, firms often rely on game trees to help them make their decisions. We don't know whether Borland did, but your research assistant has prepared the a game tree (see next page). It shows the hypothetical payoffs (in millions) to different courses of action and hypothetical probabilities of Borland's winning or losing the suit. Borland wants to know what to do. What is your recommendation based on the game tree? (Use expected values: $\text{payoff} \times \text{probability}$.) Explain.