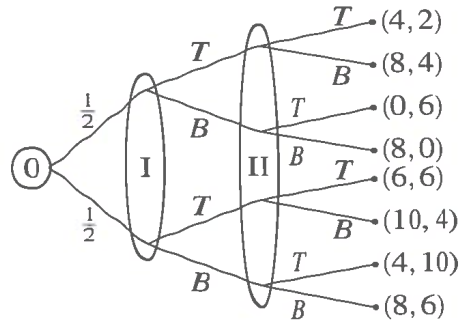


1. (a) Convert this game from extensive form to strategic form. (0 denotes Nature, or a chance move.)



- (b) Find all pure Nash equilibria.

2. Players I and II are participants in a televised game show, sealed in separate booths with no possibility of communicating with each other. Each is asked to submit, in a sealed envelope, one of the following two requests, which are guaranteed to be honored. (1) Give me \$1,000. (2) Give the other participant \$4,000.

- Describe the game in extensive form.
- Describe the game in strategic form.
- Find the safety levels of the players.
- Find a pure Nash equilibrium.

3. Consider the bimatrix game given by

$$\begin{matrix} & \begin{matrix} L & C & R \end{matrix} \\ \begin{matrix} T \\ M \\ B \end{matrix} & \begin{pmatrix} (6, 2) & (0, 6) & (4, 4) \\ (2, 12) & (4, 3) & (2, 5) \\ (0, 6) & (10, 0) & (2, 2) \end{pmatrix} \end{matrix}.$$

- Show that one row and one column can be eliminated by strict dominance. (For checking row dominance, you need only consider the first entry of each payoff vector. For checking column dominance, you need only consider the second entry of each payoff vector.)
- Find the safety levels for I (row player) and II (column player).
- Find maxmin strategies for both players.
- Find a Nash equilibrium.