EXTRA EXERCISE GAME THEORY 1

We are in the hotel market. In a tourist town, two hotels dominate the market for overnight stays: Bloemenhof and Hemelhuis. The high season is just around the corner, which also marks the start of a fierce battle for customers' favour every year.

There are two strategies available to each market player: apply promotional discounts (strategy 1) or not apply promotional discounts (strategy 2).

If both hotels decide to apply promotional discounts, the increase in profit during the season will be €350.000 for Bloemenhof and €250.000 for Hemelhuis.

If Bloemenhof chooses to apply a promotional discount and Hemelhuis chooses not to apply a promotional discount, the increase in profit for Bloemenhof will be €550.000 and for Hemelhuis €150.000.
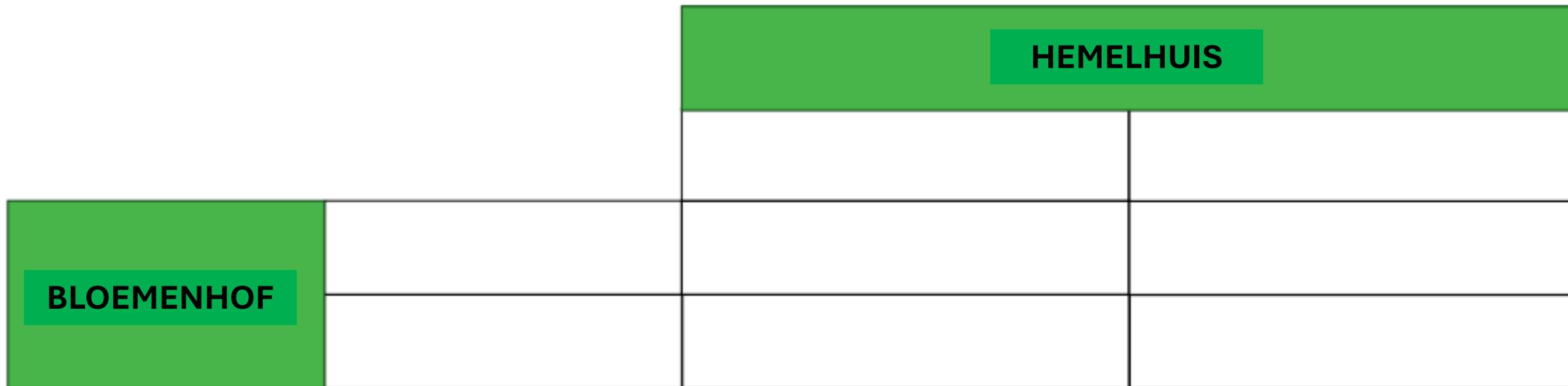
If Bloemenhof chooses not to apply a promotional discount and Hemelhuis chooses to apply a promotional discount, the increase in profit for Bloemenhof will be €250.000 and for Hemelhuis €450.000. If both hotels choose not to apply a promotional discount, the increase in profit during the season will be €450.000 for Bloemenhof and €350.000 for Hemelhuis.

1. Complete the result matrix below
2. Determine the best-response strategies for each hotel
3. Define the dominant strategy for each hotel (only if applicable)
4. Determine the Nash equilibrium (only if applicable)
5. Analyze the NE: is it Pareto-optimal or not?
(only if applicable)

STEP 1:

STEP 2:

STEP 3:

STEP 4:

STEP 5: