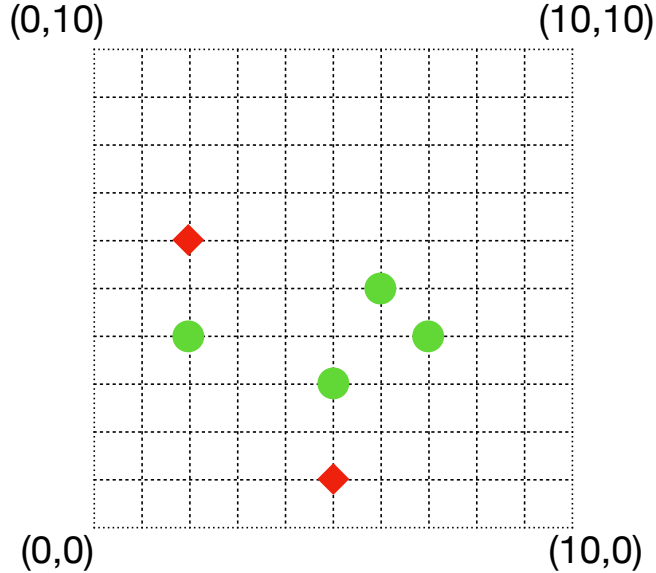
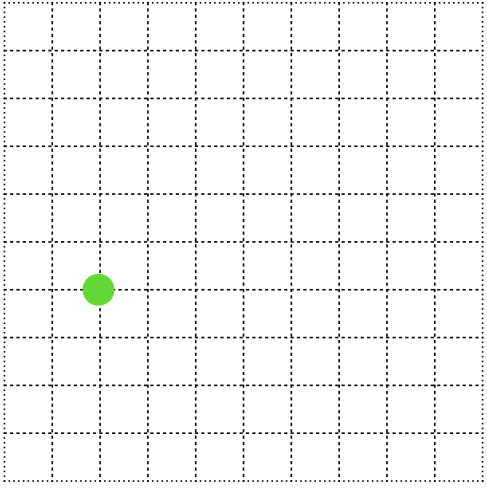
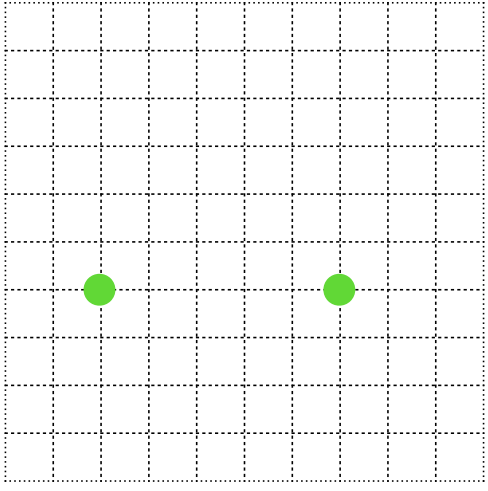
Exercise

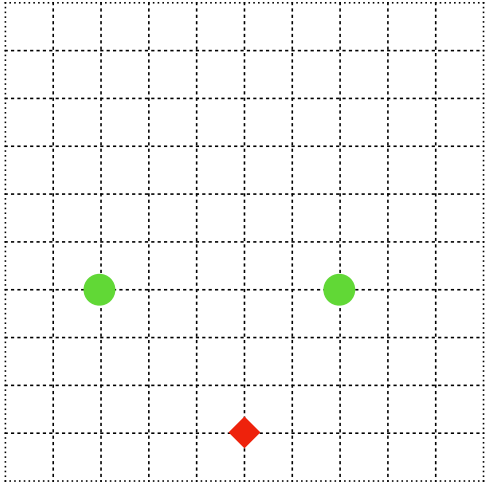
- Consider again the space of rectangles ($a \le x \le b \wedge c \le y \le d$) on the [0,10]x[0,10] grid.

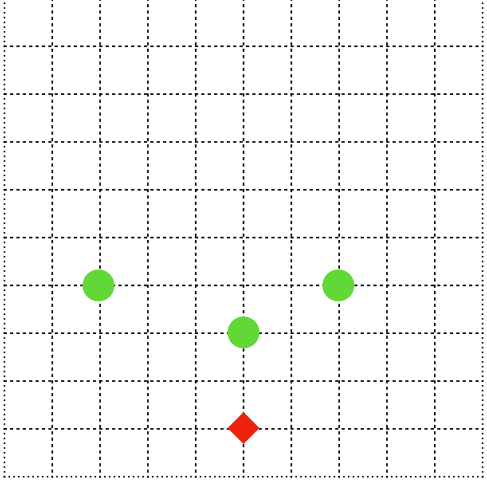
- Trace the FIND-S algorithm for the following sequence of examples:
  (2,4) 1
  (7,4) 1
  (5,1) 0
  (5,3) 1
  (2,6) 0
  (6,5) 1

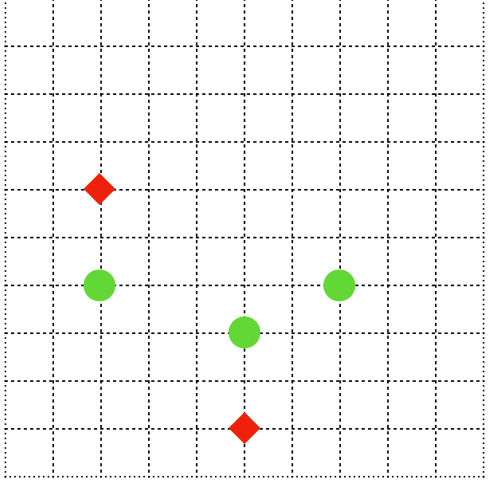


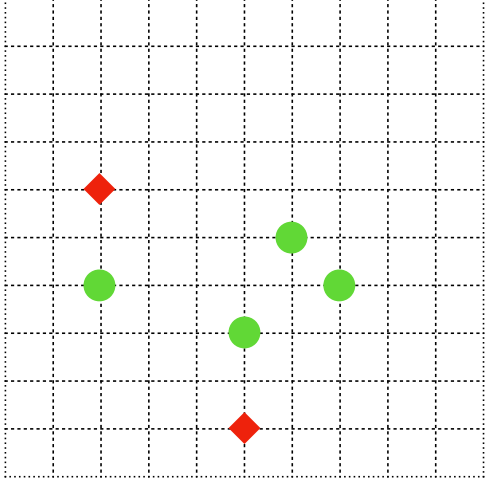












Exercise

- Consider again the space of rectangles ($a \le x \le b \wedge c \le y \le d$) on the [0,10]x[0,10] grid, and the positive ● and negative ◆ training examples in the figure.

- What are the G and S boundaries of the version space? Write them down and draw them on the grid.

- Imagine the learner can ask the teacher to label a specific point as next training example. Suggest a point that would guarantee to shrink the version space independently of its label, and one that wouldn't.

- What is the smallest number of examples for which CANDIDATE-ELIMINATION can precisely learn any specific rectangle, say, ($2 \le x \le 8 \wedge 3 \le y \le 5$)?