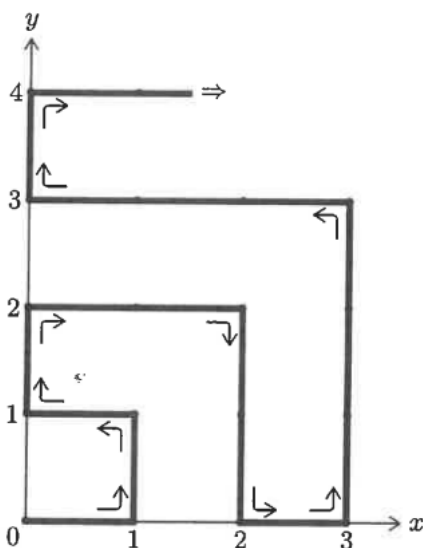# Pi Mu Epsilon
Problem of the Month October 2023

A robot travels through the first quadrant as follows. During the first minute, it moves from the origin (0,0) to $(1,0)$. Thereafter, it continues to follow the directions indicated in the figure, going back and forth between the positive x and y axes, moving one unit of distance parallel to an axis in each minute. What will be the location of the robot (in (x, y) coordinates) after 2023 minutes?

Problem of the Month Rules:
⌘ Submissions must include a complete mathematical justification along with the answer.
⌘ Submissions may only be made by individuals or groups of two and must be dated.
⌘ Due date: October 27, 2023 before 5 p.m. to one of Drs. Poplin, Shoenthal, Ledford, or Hoehner.

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