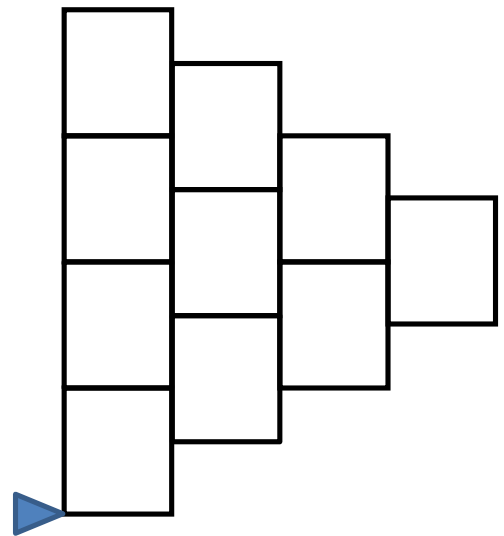


Name _____

CPADS Exam #1 Strategy Review

1. Propose **two different strategies** to draw the following figure – a rotated pyramid, composed of squares of a given size. After drawing the figure, the cursor should be returned to its original position and orientation. You should break the problem down into sub-problems, and use those sub-problems to solve the larger problem, i.e. identify pieces of the drawing that can be turned into functions, and then use those functions to create the pyramid. You should also propose loops, where possible, to reduce repeated instructions. Your strategy should NOT include any Python code, but rather, it should be composed of a series of steps in English, and/or pseudo-code.

Hints: Consider how to draw the pyramid (with rows or columns), and where to start drawing (left or right)? You may assume that you have an instruction that draws squares of a given size, starting from the cursor, and draws the square in counter-clockwise fashion. Consider creating new instructions that you can use to draw the diagram.



Name _____

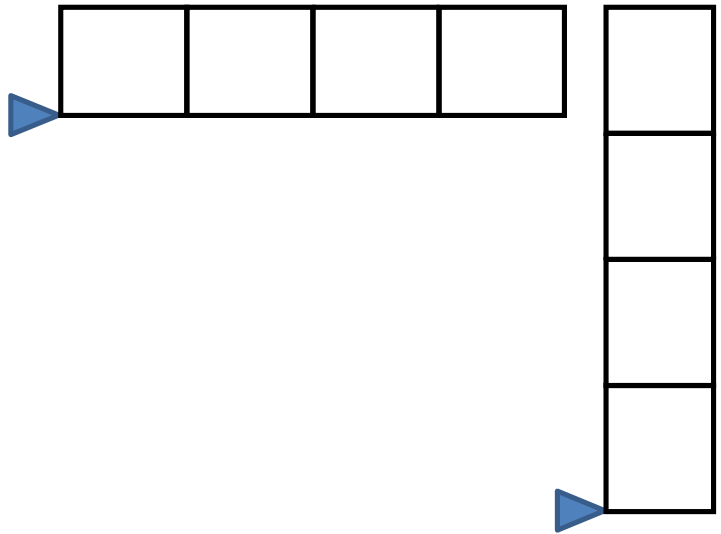
2. Propose a strategy for using an instruction that draws the row shown below to draw the column, also shown below. Propose a new instruction,

drawColumnFromCorner(blocks, size)

that uses

drawRowFromCorner(blocks, size)

to draw a column, of given blocks, with a given size for the blocks. The new instruction should return the cursor to its original position and orientation after drawing the column.



Name _____

3. Propose **three different strategies** to draw the following figure – a staircase that descends from upper-left to lower-right. After drawing the figure, the cursor should be returned to its original position and orientation. You should break the problem down into sub-problems, and use those sub-problems to solve the larger problem, i.e. identify pieces of the drawing that can be turned into functions, and then use those functions to create the staircase. You should also propose loops, where possible, to reduce repeated instructions. Your strategy should NOT include any Python code, but rather, it should be composed of a series of steps in English, and/or pseudo-code.

Hints: Consider where to start drawing the staircase, with the top row, or the bottom row. Also, should it be drawn with rows, or with columns? You may assume that you have an instruction that draws a square of a given size, in counter-clockwise fashion starting at the cursor. Consider creating new instructions that you can use to draw the diagram.

