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CPADS Lab Activity #8

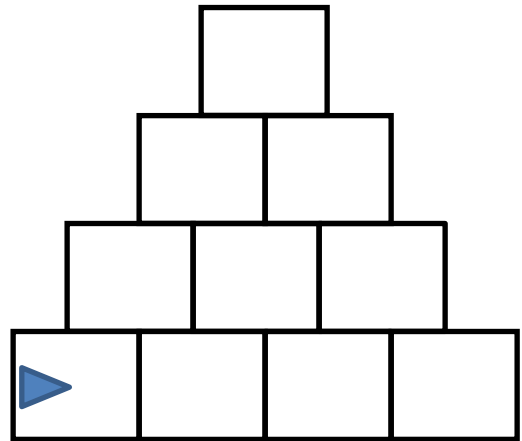
1. Write a strategy for a function called **Row(*n*)** to construct a row of *n* boxes of size 1 using the **drawSquareFromCenter(*x*)** and **repeat(*x*)** commands. You **MUST** return to the cursor to the original starting position once the boxes have been drawn. Note: The example below shows what the figure would look like for **Row(4)**.



Name _____

2. (Challenge) Use the **Row(n)** from problem 1 and the **repeat(x)** commands to write a strategy to draw a pyramid with the base row having **k** boxes and each subsequent row having one fewer boxes until the top row only contains one box as shown in the figure below. The rows are all centered on each other. Figure out how to return the cursor back to its original position relative to the number of rows that were drawn.

Hint: Consider how the number of boxes in each row can be related to the value of the loop counter.



Name _____

3. Open PyCharm and on your H: drive create a new project named CS100-Lab8. Download the file `pyramid.py` from the course webpage into the CS100-Lab8 folder

<https://ycpcs.github.io/cs100-fall2019/labs/src/pyramid.py>

Using the provided `drawSquareFromCenter(x)` function,

- Complete the `drawRow(t,squareSize,numSquares)` function to draw a row of `numSquares` squares of size `squareSize` using a `for` loop returning the cursor to its original position and orientation (as shown in the figure from part 1).
- Complete `main()` to use the user inputs `size` and `height` to draw a pyramid having `height` rows and returning the cursor to its original position and orientation (as shown in the figure from part 2).

Hint: The number of squares in the *bottom* row is the same as the *height* of the pyramid. Consider drawing the pyramid from top to bottom using a `for` loop and relate the loop counter to the number of squares in the row being drawn.