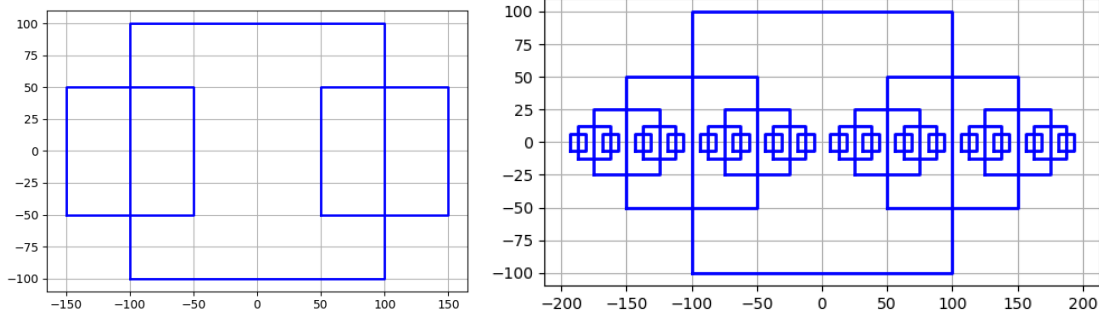# CS2302 Data Structures
Spring 2020
Practice Exam 1

1. Write the function nested_squares(ax,n,x0,y0,size) that draw a figure like the one below, where n is the number of figures, x0,y0 is the center of the figure, and size is the distance from the center to one of the square's sides.

2. Write the **recursive** function *list_n_to_0(n)* that receives a positive integer n and returns a native list containing the integers from n to 0 (inclusive).

3. Write the function *sum_first_n(L,n)* that receives a reference to a List object (as defined in singly_linked_list.py) and an integer n and returns the sum of the first n elements in L, or the sum of all elements if L has less than n elements.

4. Write the function *sum_until(L,i)* that receives a reference to a List object (as defined in singly_linked_list.py) and an integer i and returns the sum of the elements that appear before i in L, or the sum of all elements if i does not appear in L.

5. Write the function *next_to_last(L)* that receives a reference to a List object (as defined in singly_linked_list.py) and returns the item stored in the next to last node in L, or None if L has less than two nodes.