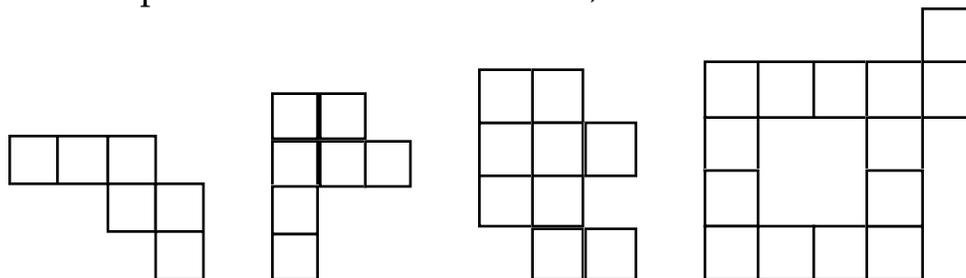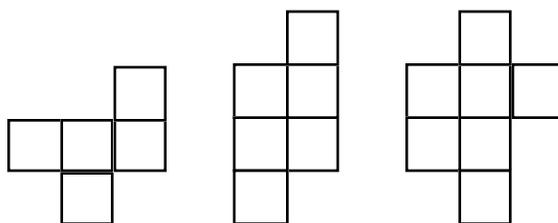# WORMINOES

A *wormino* is a shape made of several same-size squares that can be formed by first laying down one square, and then a neighboring square and then another and another, each one always a (horizontal or vertical) neighbor of the previous one. For instance, these are worminoes:
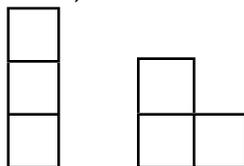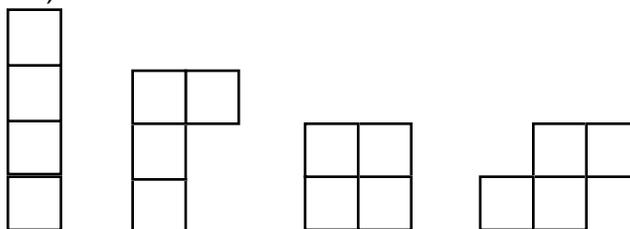
and these are not:

We want to find out the number of different worminoes with 3 squares, with 4 squares, with 5 squares, . . . as far as we can go. Rotations and reflections of a shape count as the same shape.
For three squares, the answer is 2; here are the two shapes:

and for four squares, the answer is four and these are the four shapes:

Along the way, we want to find techniques for counting efficiently, for making sure we have all wormino shapes and that we are not counting the same one twice.