1127-05-177   **Lara Pudwell***, Department of Mathematics and Statistics, 1900 Chapel Drive, Valparaiso, IN 46383, and **Rebecca Smith**. *Sorting with Pop Stacks.* Preliminary report.

A classic result in the area of permutation patterns is that a permutation is sortable after one pass through a stack if and only if it avoids the permutation pattern 231; there are Catalan-many such permutations of length n. A more complicated characterization exists for permutations that are sortable after two passes through a stack. In this talk, we consider analogous questions for pop stacks. Here, a pop stack is a last-in-first-out data structure where elements may be input into the stack one at a time, but when one element is output from the stack, the entire contents of the stack must be output together. A permutation is k-pop-stack-sortable if it can be sorted after at most k passes through a pop stack. In particular, we'll give a new way to enumerate 1-pop-stack-sortable permutations and also enumerate 2-pop-stack-sortable permutations by showing each class to be in bijection with special families of polyominos. (Received February 02, 2017)