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*Sorting permutations with finite-depth stacks.* Preliminary report.

We investigate a variety of sorting operators involving finite-depth stacks. In particular, Pudwell *et al.* recently characterized and enumerated those permutations that are sortable with one pass through a stack of arbitrary depth, an arbitrary number of passes through a stack of depth 2, and two passes through a stack of depth 3. We review these results and then examine those permutations that are sortable with one pass through two parallel finite-depth stacks of arbitrary depths, and an arbitrary number of passes through two parallel stacks of small depths. We also investigate the limitations that a finite stack imposes on sorting operators involving compositions of the stack sorting operator with dihedral group symmetries. (Received July 29, 2014)