Daniel Gray* (dgray1@uf1.edu). Bounds on superpatterns containing all layered permutations. Preliminary report.

In the study of pattern containment, a $k$-superpattern is a permutation which contains all $k!$ permutations of length $k$ as a pattern. One may also consider restricted superpatterns, i.e. a permutation which contains, as a pattern, every element in some subclass of the set of permutations of length $k$. Here, we find lower and upper bounds on a superpattern which contains all layered $k$-permutations. Also, we exhibit a connection between the sum of depths of null-balanced binary trees on $k$ vertices. (Received September 16, 2013)