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First-Fit Coloring of Cocomparability Graphs

One of the simplest heuristics for obtaining a chain partition of a poset is First-Fit algorithm. First-Fit labels chains with natural number and, for a given ordering of points of a poset, assigns to each point the lowest possible natural number.

First-Fit does not perform well in partitioning general posets into chains. Kierstead noted that on a class of posets of width 2 First-Fit uses unlimited number of chains. In this talk we show that the number of chains used by First-Fit on a class of H-free posets of width at most w is bounded if and only if H is a poset of width 2.

This is joint work with B. Bosek and G. Matecki.