

1145-05-1197 **Tad White***, 17100 Science Drive, Bowie, MD 20715. *Quota Trees*. Preliminary report.

Usually, a graph search ends when each vertex has been reached once. Quota trees arise when you need to arrive at each vertex a prescribed number of times. We use Lagrange inversion to count the resulting search trees (or forests) in a digraph in terms of a determinant which generalizes the graph Laplacian. We will discuss applications to finite automata and other areas, indicate a number of known enumeration problems which are really about quota trees, and state some open questions. (Received September 19, 2018)