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THE LIST DISTINGUISHING NUMBER EQUALS THE DISTINGUISHING NUMBER FOR INTERVAL GRAPHS

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Abstract

A *distinguishing coloring* of a graph G is a coloring of the vertices so that every nontrivial automorphism of G maps some vertex to a vertex with a different color. The *distinguishing number* of G is the minimum k such that G has a distinguishing coloring where each vertex is assigned a color from $\{1, \ldots, k\}$. A *list assignment* to G is an assignment $L = \{L(v)\}_{v \in V(G)}$ of lists of colors to the vertices of G. A *distinguishing L-coloring* of G is a distinguishing coloring of G where the color of each vertex v comes from $L(v)$. The *list distinguishing number* of G is the minimum k such that every list assignment to G in which $|L(v)| = k$ for all $v \in V(G)$ yields a distinguishing L-coloring of G. We prove that if G is an interval graph, then its distinguishing number and list distinguishing number are equal.

Keywords: distinguishing, distinguishing number, list distinguishing, interval graph.

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