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Garth Isaak* (gisaak@lehigh.edu), Department of Mathematics, Lehigh University, Bethlehem, PA 18015. *Degree Sequences for Edge Colored Graphs.*

For a two edge colored complete graph (digraph, bipartite graph) and disjoint vertex sets, the sum of the red degrees in one part plus the sum of the blue degrees in the other is at least the number of edges between the parts. This is just degree sequence conditions for a simple graph (digraph, bipartite graph). However, this perspective allows for another simple proof for degree sequences and a unified view with degree sequence conditions for digraphs, bipartite graphs etc. The general version, ‘is a sequence of k -tuples realizable as color incidence vectors of a k -edge coloring of some graph in a class?’ includes many known problems. We discuss some old and new results on solvable cases and state some problems that surprisingly appear to remain open. (Received September 17, 2007)