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SORTING PROBLEMS IN GRAPHS

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Abstract of Talk: Abstract: Consider a graph with black and white vertices and a configuration of black and white pebbles on the vertices. In a pebbling move, two pebbles are removed from one vertex and one is replaced on an adjacent vertex. If pebbles have different colors, we can select which color to pass on. A configuration is sortable if it is possible, through a sequence of pebbling moves, to reach a configuration such that all pebbles are placed on vertices of matched colors. The sorting number is the smallest number of pebbles that guarantees sortability of any initial configuration. We find the sorting numbers for certain types of graphs.