VCU Discrete Mathematics Seminar

Graph Pebbling on the Hypercube

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(VCU!)

Wednesday, Aug. 20
1:00-1:50 EDT

In person in 4145 Harris Hall. And a Zoom option:

`https://vcu.zoom.us/j/81475528886`
`password=graphs2357`

Graph pebbling is a model aiming to solve the following resource allocation question: can a given supply meet some predetermined demand? A pebbling move is defined as taking two pebbles from a vertex and placing one pebble on a neighboring vertex. Given a graph G, the pebbling number $\pi(G)$ is the minimum number of pebbles such that any configuration of that size can satisfy the target demand through a sequence of pebbling moves.

Graph pebbling on the hypercube was originally developed by Fan Chung as an alternate proof technique to resolve the Erdős-Lemke conjecture in number theory. Since then, the pebbling number and variations have been studied for various classes of graphs. This talk will survey existing results and techniques used to determine the pebbling number, with a focus on the hypercube. It will also explore how generalizing techniques from the hypercube connects to Graham's conjecture and further enriches the world of graph pebbling.

For the DM seminar schedule, see:

`https://go.vcu.edu/discrete`