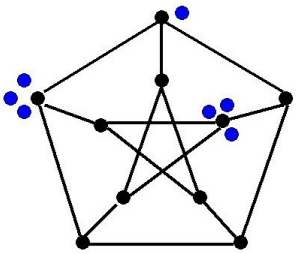
VCU Discrete Mathematics Seminar

Pebbling on Kneser Graphs and Target Pebbling on Trees

Viktoriya Bardenova (VCU!)

Wednesday, Nov. 20
1:00-1:50 EST

In person! in 4145 Harris Hall, and Zoom @
`https://vcu.zoom.us/j/92975799914`
`password=graphs2357`



Graph pebbling is a game played on graphs with pebbles on their vertices. A pebbling move removes two pebbles from one vertex and places one pebble on an adjacent vertex.

The pebbling number $\pi(G)$ is the smallest t so that from any initial configuration of t pebbles it is possible, after a sequence of pebbling moves, to place a pebble on any given target vertex.

Given any target or 'root' vertex in the graph and any initial configuration of n pebbles on the graph, it is possible, after a possibly-empty series of pebbling moves, to reach a new configuration in which the designated root vertex has one or more pebbles.

The first part of this talk considers the pebbling number of Kneser graphs, and gives positive evidence for the conjecture that every Kneser graph has pebbling number equal to its number of vertices and shows some new results and improved bounds.

The second part of the talk will concentrate on target pebbling and show some techniques used to find extremal configurations and the target pebbling number in trees.

For the DM seminar schedule, see:

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