Minimal Period and Finite Starting Point for the Periodic Catenary Degree

We work with numerical monoids — subsets of the natural numbers that are closed under addition.
These form a non-unique factorization domain where the irreducible elements are precisely the generators.
The catenary degree of an element within a numerical monoid is an integer that measures the spread of the element's factorizations. Our goal is to develop previous results about the periodicity of the catenary degree.

I am finishing my first year as a Ph.D. student in the Department of Mathematics. I first became interested in commutative monoids during a summer research project. They are very easy to describe but quickly produce very difficult problems. I hope that, by the end of the summer, we will have answers to several questions that have puzzled me for more than two years.

Christopher R. Miller
Ph.D. student, Mathematics

I am a Math and Computer Science major, just finishing my second year at Cal. I'm really excited to be working as a mentee this summer. This will be my first research math experience. The topic of the research aligns with my mathematical interests and also allows me to apply computer scence. My goal is that, with hard work, I'll be able to use problem-solving skills to solve something that nobody has before.

Albert Zheng
Junior, Math and Computer Science

UC Berkeley's Student Mentoring And Research Team (SMART) is a paid professional development program that engages doctoral students in creating mentored research opportunities conducted with selected undergraduate student mentees during a ten-week period over the summer. Both participants receive compensation and training throughout their participation. SMART broadens the professional development of doctoral students and fosters research skills and paths to advanced studies for undergraduates.

Expenses associated with each team total $10,000 000 ($5K graduate stipend/ $3.5K undergrad stipend/$1.5K research and conference costs). As a donor-supported program of the Graduate Division, the majority of teams are underwritten through a combination of donor funds paired with matching support courtesy of the Graduate Division.

Learn more at smart.berkeley.edu

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