UC Merced Applied Math Problem of the Month

April 2022

A group of n people are standing in a circle, numbered consecutively clockwise from 1 to n. Starting with person no. 2, we remove every other person, proceeding clockwise. For example, if n = 6, the people are removed in the order 2, 4, 6, 3, 1, and the last person remaining is no. 5. Let j(n) denote the last person remaining. Is there a simple way to determine j(n) for any positive integer n > 1? In other words, can you find a mathematical expression for j(n) or write an efficient algorithm to determine j(n)?

To submit your solutions for a chance to win an Amazon gift card, and to find out detailed contest rules,

- scan the QR code to the right, or
- go to https://appliedmath.ucmerced.edu/news-events/problem-month