
BILL KINNERSLEY, Ryerson University

How long does it take to catch a robber?

In the classic “Cops and Robber” game, a team of cops attempts to capture a robber on a graph; the *cop number* is the minimum number of cops needed to guarantee a win. The cop number has been extensively studied. We consider a natural question that has received less attention: how long does it take the cops to win? When both teams play optimally, the length of the game is called the *capture time*. Surprisingly little is known about this parameter. In this talk, we show that the capture time of the d -dimensional hypercube is $\Theta(d \log d)$.