Bilkent University
Department of Mathematics

PROBLEM OF THE MONTH

Term: March 2011

There are n points in the space. Some pairs of points are connected by nonintersecting segments. For each point p, let $C(p)$ be the union of p with the set of all points directly connected to p. There are two colors: white and black. At the beginning all points are colored white. At each move we chose a point p and change the color of each point in $C(p)$. Prove that in finite number of moves all points can be colored black.