Problem Of The Month

Term: May 2015

We say that a triple \((u_1, u_2, u_3)\) of unit squares of 2015 \(\times\) 2015 grid is \(L\)-shaped if \(u_1\) and \(u_2\) lie on the same column, \(u_1\) is above \(u_2\), \(u_3\) shares the same line with \(u_2\) and lies to the right of \(u_2\). Find the minimal possible value of \(k\) if each unit square of 2015 \(\times\) 2015 grid is colored into one of \(k\) colors so that no \(L\)-shaped triple is mono colored.