
We examine conditions on the degree sequence of a graph $G$ that guarantee that $G$ is at least $t$-tough, for some $t > 0$. Most degree sequence theorems guaranteeing $G$ has some graphical property (e.g. hamiltonicity, $k$-connectedness) are monotone, meaning when a degree sequence satisfies the condition of the theorem, then any ‘larger’ degree sequence does too. For $t \geq 1$ we give a monotone theorem for a graph to be $t$-tough, and show that it is the best possible monotone theorem. On the other hand, we show that when $r \geq 1$, then a best monotone theorem for $t = \frac{1}{r} < 1$ requires at least $f(r)|V(G)|$ nonredundant conditions, where $f(r)$ grows superpolynomially as $r \to \infty$. (Received September 16, 2009)