1056-05-760   **Nathan Kahl*** (`Nathan.Kahl@shu.edu`), Dept. of Mathematics and Computer Science, Seton Hall University, 400 S. Orange Ave., South Orange, NJ 07079, and **Douglas Bauer**, **Hajo Broersma**, **Ed Schmeichel** and **Jan van den Heuvel**. *Toughness and Degree Sequence Conditions.* Preliminary report.

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)