18.S997 (FALL 2017) PROBLEM SET 1

1. (a) Let s and r be positive integers. Show that there is some integer $n = n(s, r)$ so that if every edge of the complete graph K_n on n vertices is colored with one of r colors, then there is a monochromatic copy of K_s.

   (b) Let $s \geq 3$ be a positive integer. Show that if the edges of the complete graph on $\binom{2s-2}{s-1}$ vertices are colored with 2 colors, then there is a monochromatic copy of K_s.

... to be continued ... check back later