

Problems for CSE 2010 Summer Camp

Sunday 6 June

1. Prove that, in the courting algorithm, no man gets rejected by all the women.
2. Let $s_{\min}(n)$ and $s_{\max}(n)$, respectively, denote the smallest and the largest number of solutions of the stable marriage problem involving n women and n men.
What are the best upper and lower bounds on $s_{\min}(n)$ that you can find?
What are the best upper and lower bounds on $s_{\max}(n)$ that you can find?
3. Let $t_{\min}(n)$ and $t_{\max}(n)$, respectively, denote the smallest and the largest number of iterations of the courting algorithm involving n women and n men.
What are the best upper and lower bounds on $t_{\min}(n)$ that you can find?
What are the best upper and lower bounds on $t_{\max}(n)$ that you can find?