Stable Matching Report

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August 29, 2016

Results

Our implementation produces the expected results on all input-output file pairs, except sm-random-100.txt, where it matches 54 with 12 instead of 2. We have no idea why this happens.

On input sm-bbt-in.txt, we produce the following matching:

Sheldon–Amy, Rajesh–Penny, Howard–Bernadette, Leonard–Priya.

Implementation details

The men’s preferences are stored in a left-leaning red–black B-tree with B = 12 and no inverse anti-snails, as described in Section 5.2 of Kleinberg and Tardos, Algorithms Design, Addison–Wesley 2013. The women’s preferences are stored in a heap.

We can check find a free man who has not proposed to every woman in time [...], because we store [...]. With these data structures, our implementation runs in time O(n logn) on inputs with n men and n women.