

Matching n boys and girls

Algorithm:

- Let the boys be B_1, B_2, \dots, B_n and let the girls be G_1, G_2, \dots, G_n .
- For $i=1$ up to n DO
 - Pick a girl for boy B_i , and remove her from the set

Analysis: there are n ways to pick the first girl, $n-1$ ways to pick the second girl, etc., and each way produces a different matching.

Total: $n!$