

Feb 3

Def: (Preference list)

$\forall w \in W, L_w$: total ranking of all men $m \in M$

$\forall m \in M, L_m$: total ranking of all women $w \in W$

Ex: $n=2$

$M = \{BP, BBT\}$ $W = \{JA, AJ\}$

$L_{BP}: AJ > JA$

$L_{JA}: BP > BBT$

$L_{BBT}: AJ > JA$

$L_{AJ}: BP > BBT$

$2n$: # preference lists

$2n \times n = 2n^2$ elements overall

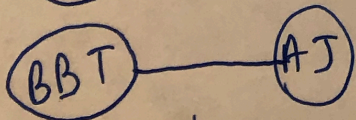
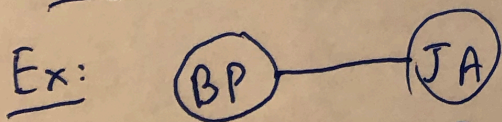
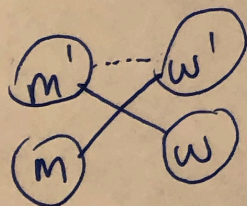
Def: A stable matching is a perfect matching with no instability.

Def: (Instability) Given the $2n$ preference lists, a perfect matching S ; we say a pair $(m', w') \notin S$ is an instability

IF ① $m' > m$ in $L_{w'}$

and

② $w' > w$ in $L_{m'}$.



↓

NOT a stable matching

Q1: Is (BBT, JA) an instability? → NO

Q2: Is (BP, AJ) an instability? → YES