Sep 6

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: $n = 2$

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

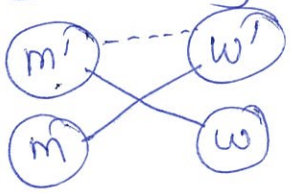
L_{BP}: $AJ > JA$	L_{JA}: $BP > BBT$	$2n$: preference list.	
L_{BBT}: $AJ > JA$	L_{AJ}: $BP > BBT$	$2n \times n = 2n^2$ elements overall	

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

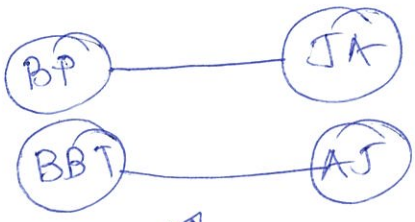
Def: Instability: Given the $2n$ pref. lists, a perfect matching S we say a pair $(m', w') \notin S$ is an instability IF (1) $m' > m$ in $L_{w'}$

AND

(2) $w' > w$ in $L_{m'}$.



Ex:



↑ NOT a stable matching!

Q1: Is (BBT, JA) an instability? ↙ NO

Q2: Is (BP, AJ) an instability? ↖ YES!