

Aug 30

Stable matching/marriage

$n = 2$

n women
 n men

$W = \{w_1, \dots, w_n\}$
 $M = \{m_1, \dots, m_n\}$

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

Def (matching) A subset $S \subseteq M \times W = \{(m, w) \mid m \in M, w \in W\}$ is a matching IF

- (i) $\forall w \in W, \exists$ at most one man $m \in M, (m, w) \in S$
- (ii) $\forall m \in M, \exists$ at most one woman $w \in W, (m, w) \in S$

Def: (perfect) matching \uparrow at most \leftarrow EXACTLY

