

Sep 6

Stable matching / marriage problem

n men
n women

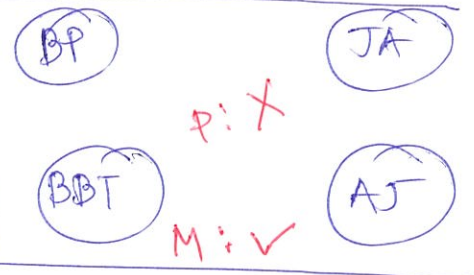
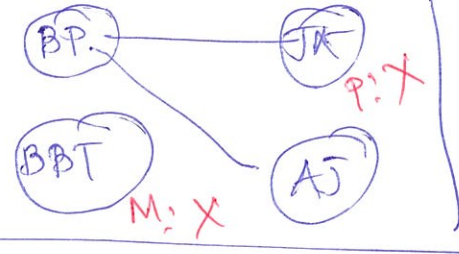
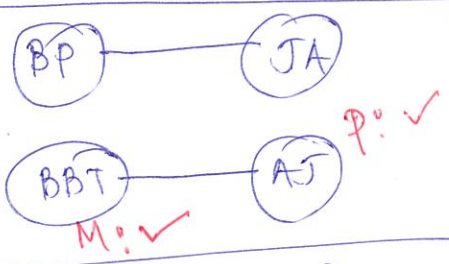
$$M = \{m_1, \dots, m_n\}$$

$$W = \{w_1, \dots, w_n\}$$

n=2

$$M = \{BP, BBT\}$$

$$W = \{JA, AJ\}$$



Def (Matching)
s.t.

Matching is a subset $S \subseteq M \times W$

- (i) $\forall w \in W, \exists$ at most one $m \in M$ s.t. $(m, w) \in S$
 - (ii) $\forall m \in M, \exists$ at most one $w \in W$ s.t. $(m, w) \in S$
- $\left. \begin{matrix} \{ (m, w) \mid \\ m \in M, \\ w \in W. \} \end{matrix} \right\}$

Def: Perfect matching is matching \checkmark **EXACTLY**

Matchings vs pairs (matches)

