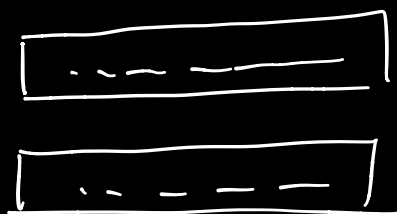
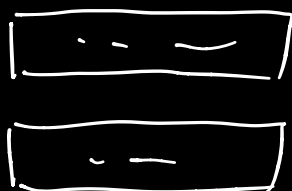


# Stable Marriage Optimal



$$M \text{ --- } W : M^+ > M$$

$$w > w^+ : M^+ \text{ --- } w^+$$



$$w : M$$

$$t : \underbrace{M^+ \text{ propose to } W}_{\text{First:}}$$

$$W : M^+ > M$$

$$w^+ : M^* < M^+$$

$$(w^-, M^-)$$

$$T : (w, M)$$

$$S : (w, M^-)$$

$$(M, w^*)$$

$$w : M > M^-$$

$$M : w > w^*$$

$$T : (w, M)$$

$$S : (w, M^-)$$


---


$$(M, w^*)$$

$$w : M^- < M$$

$$M : \square < w$$

Contradiction  
in S.

$$T: (w, m^+)$$

Assume:

$$w: \boxed{m^+ \quad m}$$

$$m^+: \boxed{w^+ \quad w}$$

---

$$w: m^+ > m$$

$$m^+: \frac{w > w^+}{}$$

$$m^+, w^+$$

---

} x?

| contradiction  
in T.