

PROBLEM 1A

Question. True or false? In every instance of the Stable Matching Problem, there is a stable matching containing a pair (m,w) such that m is ranked first on the preference list of w and w is ranked first on the preference list of m .

Solution. Let us approach this problem by considering a group containing 2 men $m_1 \& m_2$ and 2 women $w_1 \& w_2$.

We will first see whether the above claim is possible to reproduce using a specific set of preferences and then disprove it with another altered set of preferences.

Let the preferences of m_1 and m_2 be as follows:

	1 st	2 nd
m_1	w_1	w_2
m_2	w_1	w_2

□