

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

□