Eclipse, Kliezl P. Exercise 10.4-3

Q: Find a stable marriage matching for the instance given in Problem 1 by applying the stable marriage algorithm

a. in its men-proposing version.
b. in its women-proposing version.

A:

a.

Free Men:		A	B	C	
α, β, γ	α	1,3	2,2	3, 1	α proposed to A
	β	3,1	1,3	2, 2	A accepted
	γ	2,2	3,1	1, 3	

Free Men:		A	B	C	
β, γ	α	1,3	2,2	3, 1	β proposed to B
	β	3,1	1,3	2, 2	B accepted
	γ	2,2	3,1	1, 3	

Free Men:		A	B	C	
γ	α	1,3	2,2	3, 1	γ proposed to C
	β	3,1	1,3	2, 2	C accepted
	γ	2,2	3,1	1, 3	

$M = \{(\alpha, A), (\beta, B), (\gamma, C)\}$

b.

Free Women:		A	B	C	
A, B, C	α	1,3	2,2	3, 1	A proposed to β
	β	3,1	1,3	2, 2	β accepted
	γ	2,2	3,1	1, 3	

Free Women:		A	B	C	
B, C	α	1,3	2,2	3, 1	B proposed to γ
	β	3,1	1,3	2, 2	γ accepted
	γ	2,2	3,1	1, 3	

Free Women:		A	B	C	
C	α	1,3	2,2	3, 1	C proposed to α
	β	3,1	1,3	2, 2	α accepted
	γ	2,2	3,1	1, 3	

$M = \{(\beta, A), (\gamma, B), (\alpha, C)\}$