

Name: **SOLUTION**

[8p] Find the * optimal stable matching considering the following preference lists, where * stands for consonant/vowel if your name starts with a consonant/vowel. Show your work.

	1.	2.	3.	4.
A	F	B	C	D
E	C	D	B	F
I	C	F	D	B
O	D	B	F	C

	1.	2.	3.	4.
B	O	A	I	E
C	A	I	E	O
D	A	E	I	O
F	O	A	I	E

Solution	
A	F
E	D
I	C
O	B

For these preferences, the solution is unique.

[2p] Which algorithm did you use? Is this an *efficient* algorithm? Explain why or why not.

The Gale-Shapley algorithm is an efficient algorithm because its running time $O(n^2)$ is better than the $O(n!)$ brute force search.