

Stable matchings,
Math 4707, Spring 2021

Consider the following preference tables for Doctors and Hospitals:

Doctor	Hospital preferences	Hospital	Doctor preferences
1	B, A, C, D	A	1, 3, 2, 4
2	D, A, B, C	B	3, 4, 1, 2
3	A, C, B, D	C	4, 2, 3, 1
4	B, C, A, D	D	3, 2, 1, 4

1. First run the Gale-Shapley algorithm with the Doctors proposing to the Hospitals, and write down the stable matching you obtain.
2. Then run the Gale-Shapley algorithm *with the Hospitals proposing to the Doctors*, and write down the stable matching you obtain.
3. Of the two matchings you obtained, which is “better for the Doctors”? Which is “better for the Hospitals”? Explain what the phrases in quotation marks mean.