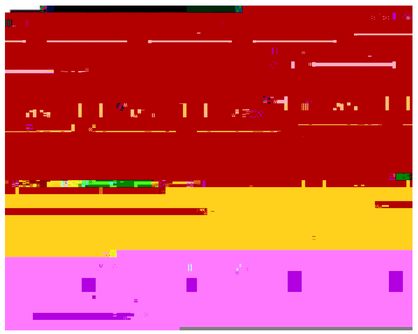
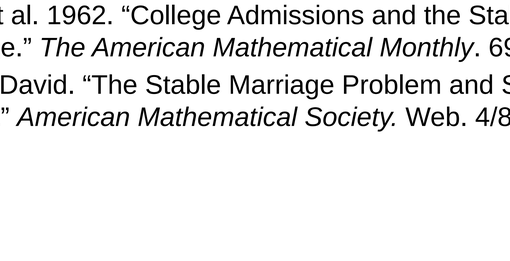
The stable marriage problem tries to solve stability between two different, but equally sized, sets of data. Stability in this case is defined by a match's members not being able to be better off than the current match. Each element in both sets have a ordered preference list for each element in the other set. The question of whether or not it is possible to create stable marriages between the two sets is answered by the Gale- Shapely algorithm. This algorithm iterates through the different preference lists until a match is found for all elements in the sets. By having one set propose to the other and the other choose over the course of the iterations, the

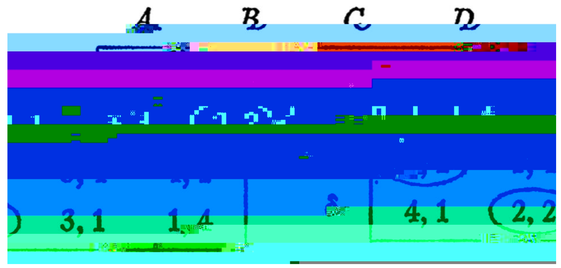
e pairing.



Conclusion



- Many people would assume that there would be a way to “cheat” this system by picking your top choices in strategic order to receive your desirable outcome
- This however, is not the choice. “Rank them in true preference order,” was the simple answer by Atila Abdulkadiroglu who worked alongside Roth gave this simple answer whenever anyone would ask for advice for receiving their top choice for any field using a system similar to the outline of the Gale-Shapely paper.



References

- Gale, et al. 1962. “College Admissions and the Stability of Marriage.” *The American Mathematical Monthly*. 69(1): 9-15
- Austin, David. “The Stable Marriage Problem and School Choice.” *American Mathematical Society.* Web. 4/8/2018