

Department of Mathematics and Statistics Colloquium

Matching Problems and the College Experience

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Abstract: If a and b are college applicants, and A and B are colleges, we define a pairing of a and b with A and B , respectively, to be unstable if b prefers A to B , and A prefers b to a . As students prefer to be as contented with their institution as possible, and colleges care about student retention, finding a stable pairing between students and colleges is important.

Once admitted to college, students are usually assigned a roommate. If a and b are roommates and c and d are roommates, the situation is unstable if a prefers c to b and c prefers a to d . A stable roommate situation is important to a positive college experience for the student, and is important to the college as well, as it aids in retention.

We discuss the Gale-Shapley algorithm for matching prospective students with colleges and the Irving algorithm for a stable assignment of roommates.

Monday, November 11 at 3:50 pm in Roop 103

Refreshments at 3:30 pm