a team assignment app

problem
designing an app to make team assignments
students enter their preferences
an algorithm or superuser makes teams
should be a service for multiple classes

exercise
create a data model for the app
a solution

note: this doesn’t handle registration of admins and creation of classes
textual constraints

student is a member of at most one team assigned in a project

student cannot list self as prefers or prefers_not

project titles are unique within a class

prefers and prefers_not must link students enrolled in same project

definitions

\((s,t)\) in prefers: s prefers to be on a team with t

\((s,t)\) in prefers_not: s prefers not to be on a team with t

\((p,s)\) in enrolled: student s is enrolled in the class for project p
insights

identifying students
1. Full names are not unique (ask Tiffany Wong!), so use email addresses, and assume they don’t change.
2. Students will need to identify other students somehow in their preferences. Have them select from list of emails to avoid problem of preference not mapping to a student.

enrollment
1. Need to assign students based on class enrollment, because some students may not submit requests.
2. Enrollment may change with add/drop, so make project-dependent.
3. Assume enrollment can’t change during a project.

assignment strategy
1. Hard to find a rule that will always be feasible (eg preferences may conflict), so will need to optimize.
2. May balance team sizes; avoid students same team for >1 project