

<https://www.thecity.nyc/2021/5/26/22453952/nyc-high-school-algorithms-segregation>

<https://economics.mit.edu/sites/default/files/publications/Paper%20-%20New%20York%20City%20High%20School%20Math.pdf>

<https://www.the74million.org/article/screening-is-back-in-at-nyc-middle-high-schools-but-will-it-help-or-hurt/>

Stable Marriage Problem - match up people based on highest agreed preference

- No 2 people would rather be with each other than current partner
- Not necessarily first

- Student
- School

Ethical issues:

- How do each rank each other?
  - Schools rank in a way to group minorities to group together
    - Performance on Scores
      - Quality of
    - School Attendance
      - Younger sibling to care for?
      -
    - Info Session Attendance
    - Location
  - Students
    - Have good guidance
    - Know what schools are best for them
    -
- Class rank?
- Admit in Tiers?
- Where do the best guidance counselors work?

### **STUDENT OBJECT (csv file)**

- ID number
- Math Test Score
- School Attendance
- Reading Test Score
- Class Rank
- Ethnicity
- School List
  - Random
  - All have same ranking

Generate list of Student Objects

### **SCHOOL**

- Dictionary - student ID to score
- Function to perform ranking
  - takes in each student
  - assigns score to dictionary
- Rules variables
- Function to convert dictionary to sorted list
-

Paper Elements:

- INTRODUCTION - describe what the algorithm is [DAVID]
  - NYC uses matching algorithm (MS  $\rightarrow$  HS)
  - Effectively Stable Marriage Problem
- ETHICAL CONCERN #1 [JOEL]
  - CONCERNS: “Objective data” often results in Segregation
  - CODE:
  - JUSTIFICATION:
- ETHICAL CONCERN #2:
  - CONCERNS:
  - CODE:
  - JUSTIFICATION:
    - Not every MS student has the same resources to make their ranking list