This folder contains two Jupyter notebooks:

* Data\_generator.ipynb
* Verify\_HCH.ipynb

Data\_generator.ipynb generates students, disadvantaged and advantaged, with:

* Complete preference lists
* A random lottery number
* A SHSAT score sampled from a Gaussian distribution with parameters given in input

The data is then stored in data.xls

Verify\_HCH.ipynb takes in input student information in the form generated by Data\_generator.ipynb as above and runs the algorithms MR, JSA, Base, DISC.

It can be used to verify that the HCH hypothesis is verified for:

* Student scores sampled from a Gaussian that well-approximates the real score of disadvantaged (resp., non-disadvantaged) studes, see the discussion at the end of Chapter 3;
* Real capacities of schools;
* Quotas of 20%, which aligns with the quotas set by the NYC DOE.