

Hirunya Hirunsirisombut
Write-up Assignment4 part II

Youtube Link: <https://www.youtube.com/watch?v=fW2tzbmCNrU&feature=youtu.be>

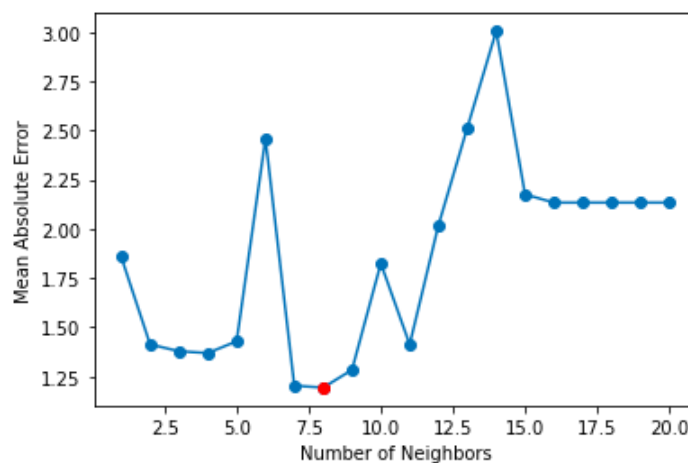
The average of the errors across all test cases that is generating predictions for items already rated by NU1 through NU5.

Mean Absolute Error with $k = 3$ on the Test Set: 1.3780007890292134

MAE values for values of K in 1 – 20 which derived from the above procedure.

K	MAE
1	1.8571
2	1.4129
3	1.3780
4	1.3687
5	1.4287
6	2.4596
7	1.2032
8	1.1928
9	1.2833
10	1.8248
11	1.4125
12	2.0201
13	2.5155
14	3.0059
15	2.1755
16	2.1338
17	2.1338
18	2.1338
19	2.1338
20	2.1338

Graph:



The predicted ratings for NU1 and NU2 for all items that have not already been rated

User	Item	Rating
NU1	THE DA VINCI CODE	4.235
NU1	RUNNY BABBIT	2.280
NU2	TRUE BELIEVER	3.591
NU2	THE KITE RUNNER	2.892
NU2	HARRY POTTER	3.213

The recommendation function using $k = 4$ to create the top 3 recommendations for the users U2, U5, U13, and U20.

	user	item	rating
0	U2	TRUE BELIEVER	3.684472
1	U2	HARRY POTTER	3.198937
2	U2	MY LIFE SO FAR	2.095882
3	U5	HARRY POTTER	3.353351
4	U5	MY LIFE SO FAR	2.833172
5	U5	THE TAKING	2.026535
6	U13	THE DA VINCI CODE	4.069623
7	U13	MY LIFE SO FAR	2.458282
8	U13	TRUE BELIEVER	2.386469
9	U20	RUNNY BABBIT	1.435983