09 – Recommender Systems 2 – Sep 28, 2016

Assume the following ratings of movies by 6 users (A-F), the average ratings per movie, and the predicted ratings for David from some unspecified collaborative filtering algorithm.

	The Matrix	Gone with the Wind	Jack and Jill	Planes	Rocky IV
Alice	2	5	2	4	2
Bob	3		1	4	2
Christine	4	5	2	5	3
David	**5**		**2**	**2**	**4**
Elaine	5	3	1		3
Frank		3	1	3	
AVERAGE	3.8	4	1.5	3.6	2.8
Predicted for David	**4.5**	**3**	**2**	**3**	**3.5**

[Q2 (Evaluating Quality)]

Given David's actual rankings, compute the Mean Absolute Error if we are to use the Predicted values for David's rankings. Remember the formula for Mean Absolute Error:

$$\text{MAE} = \frac{1}{N} \times \sum_{i=1}^{N} | p_i - q_i |$$

[Q3 (Slope One)]

What is the average difference in ratings between The Matrix and Planes?

[Q4 (Slope One)]

What would be the predicted value for Frank's rating of the Matrix, just utilizing the above differences and his rating of Planes (=3)?