

## Report on Assignment 3.1

The given dataset in this assignment contains training and testing set whose columns are Movies\_ID, User\_ID, and Ratings. In this assignment we have given a task to develop a collaborative filtering memory based algorithm to recommend movies. The main task given in this assignment is to calculate Root mean square error and Mean absolute error of the predicted values.

There are 28978 unique users and 1821 unique movies given in the dataset. After applying the algorithm to the given datasets the values generated are as follows:

**Root Mean Squared Error: 1.49**

**Mean Absolute Error: 0.80**

In this model, I have calculated weights with respect to each user and his/her correlation between others. The weight matrix is not possible to calculate here because of computing complexity. It seems that after applying this model the difference between the predicted votes and actual votes is given above.