

a.

For this particular dataset, a good measurement of distance would be cosine similarity. This measurement method takes into account the angle between two vectors of a user's ratings, rather than just the measuring only the distance between the points. This method is able to see the similarities between vectors simply based on the angle of each vector. This approach helps capture the relationship between users who have rated similar movies and thus recommend based off the similarities in their preferences.

b.

Cosine similarity takes only the non-zero entries into consideration within the vectors that are being compared. Thus, the measurement takes account movies that have been rated by a user and disregards the 0 which indicates a movie has not been rated.