

1. (a) Tabulate the weights obtained for each movie.

Movie	Weight
03276	0.117848147906
06004	0.126459795051
14199	0.117771001943
17113	0.117810937409
06315	0.117731208043
01292	0.126506952176
11977	0.117819513515
15267	0.12656614447
08191	0.117822373672
16944	0.117745403957
07242	0.117793804816
03768	0.126465680175
02137	0.126436281655
10935	0.117790951923
03124	0.117708531879

(b) How many users are present in the database? What is the highest score? What is the second highest score?

The number of users are: 44651

Highest score: 0.113354503558

Second highest score: 0.102920679491

(c) What is the user-id of the user with the highest score? Write out the ratings of this user from the database, and verify if they are similar to the ratings in the auxiliary information.

User with maximum score: 1664010

Ratings done by user 1664010

Movie	Rating
01292	3
02137	4
03124	4
03276	4
03768	4
06004	4
06315	4
07242	4

08191 4
11977 4
14199 4
15267 4
16944 4
17113 4

Comparing Aux and user ratings

Movie	AUX Rating	User Rating
01292	3.3	3
03124	3.5	4
03768	3.5	4
06004	3.9	4
06315	4.0	4
07242	3.9	4
08191	3.8	4
11977	4.2	4
14199	4.5	4
15267	4.2	4
16944	4.2	4
17113	4.2	4

Using the above table we can find out the ratings of the user are similar and comparable to ratings in aux

(d) What is the value of the eccentricity threshold? What is the difference between the highest and second highest score? Is it greater than the eccentricity metric?

The eccentricity with gamma value 0.1 is 0.0120683445592

Difference between the highest and second highest score 0.0104338240671

Difference between the highest and second highest score is lesser than the eccentricity metric

SCREENSHOTS:

P.T.O.

```
Nida@Nida MINGW64 ~/Desktop/Privacy/HW1/HW1/hw1-files
$ python link.py
```

```
-----
Movie      Weight
-----
03276      0.117848147906
06004      0.126459795051
14199      0.117771001943
17113      0.117810937409
06315      0.117731208043
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Second highest score: 0.102920679491

User with maximum score: 1664010

Ratings done by user 1664010

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02137      4
03124      4
03276      4
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06004      4
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08191      4
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14199      4
15267      4
16944      4
17113      4
```

Comparing Aux and user ratings

```
-----
Movie      AUX Rating      User Rating
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01292      3.3              3
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```

The eccentricity with gamma value 0.1 is 0.0120683445592

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Nida@Nida MINGW64 ~/Desktop/Privacy/HW1/HW1/hw1-files

\$