



COURSE NAME: Algorithm Analysis

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HOMEWORK SUBJECT: Book Recommendation Application

Algorithm:

1. Input file read and stored into the file.
2. The number of similar users to be used in calculation has been received from the user.
3. Pearson's coefficient was calculated with the u members of each nu member with the given inputs.
4. The maximum number of elements as many as the desired number of similar users was moved to the beginning of the array and their indexes were saved in an array named k_max .
5. Information about the similarity rate of these users was printed.
6. Afterwards, the information about whether to suggest for a single user or for all users was received from the user.
7. According to the information received, predictions were made by calling predicate function about the books that were not read by the users.
8. Since the maximum of the predicted books will be the recommended book for the user, the information of that book is printed.

Screenshots:

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Printing K similarities in order:
NU1: [U16 - {0.945}, U5 - {0.866}, U9 - {0.849}]
NU2: [U11 - {1.000}, U2 - {0.982}, U1 - {0.945}]
NU3: [U16 - {0.500}, U14 - {0.498}, U15 - {0.346}]
NU4: [U2 - {1.000}, U13 - {1.000}, U10 - {0.956}]
NU5: [U9 - {0.982}, U18 - {0.866}, U7 - {0.853}]

Predicate for just one user or all users? (1 or 2)
1-) One User
2-) All Users
2
Like Ratio List for NU1 :
THE DA VINCI CODE = 3.3481
RUNNY BABBIT = 2.7265
RECOMMENDED BOOK : THE DA VINCI CODE

Like Ratio List for NU2 :
TRUE BELIEVER = 2.3445
THE KITE RUNNER = 2.0281
HARRY POTTER = 2.0216
RECOMMENDED BOOK : TRUE BELIEVER

Like Ratio List for NU3 :
THE WORLD IS FLAT = 0.7617
MY LIFE SO FAR = 0.7603
RECOMMENDED BOOK : THE WORLD IS FLAT

Like Ratio List for NU4 :
THE TAKING = 1.4027
RUNNY BABBIT = 2.0200
RECOMMENDED BOOK : RUNNY BABBIT

Like Ratio List for NU5 :
TRUE BELIEVER = 0.8016
THE KITE RUNNER = -0.7967
HARRY POTTER = 3.5669
RECOMMENDED BOOK : HARRY POTTER
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Welcome to the Book Recommendation Application
Please enter similar user count: 5
Printing K similarities in order:
NU1: [U16 - {0.945}, U5 - {0.866}, U9 - {0.849}, U12 - {0.845}, U18 - {0.700}]
NU2: [U11 - {1.000}, U2 - {0.982}, U1 - {0.945}, U19 - {0.866}, U3 - {0.756}]
NU3: [U16 - {0.500}, U14 - {0.498}, U15 - {0.346}, U6 - {0.114}, U8 - {-0.080}]
NU4: [U2 - {1.000}, U13 - {1.000}, U10 - {0.956}, U4 - {0.866}, U16 - {0.866}]
NU5: [U9 - {0.982}, U18 - {0.866}, U7 - {0.853}, U6 - {0.649}, U16 - {0.642}]

Predicate for just one user or all users? (1 or 2)
1-) One User
2-) All Users
1
Please enter NU user name (Ex:NU1): nu4
Like Ratio List for NU4 :
THE TAKING = 1.7558
RUNNY BABBIT = 1.9603
RECOMMENDED BOOK : RUNNY BABBIT
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