

User Rating Network Based Recommendation System

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Introduction

Recommendation systems is a form of content filtering based on user input and prior interaction with the system. Our project focuses on graph properties to recommend books to users based on previous user ratings. Various factors such as average ratings, popularity of books and users’ reading lists are considered.

Dataset and EDA

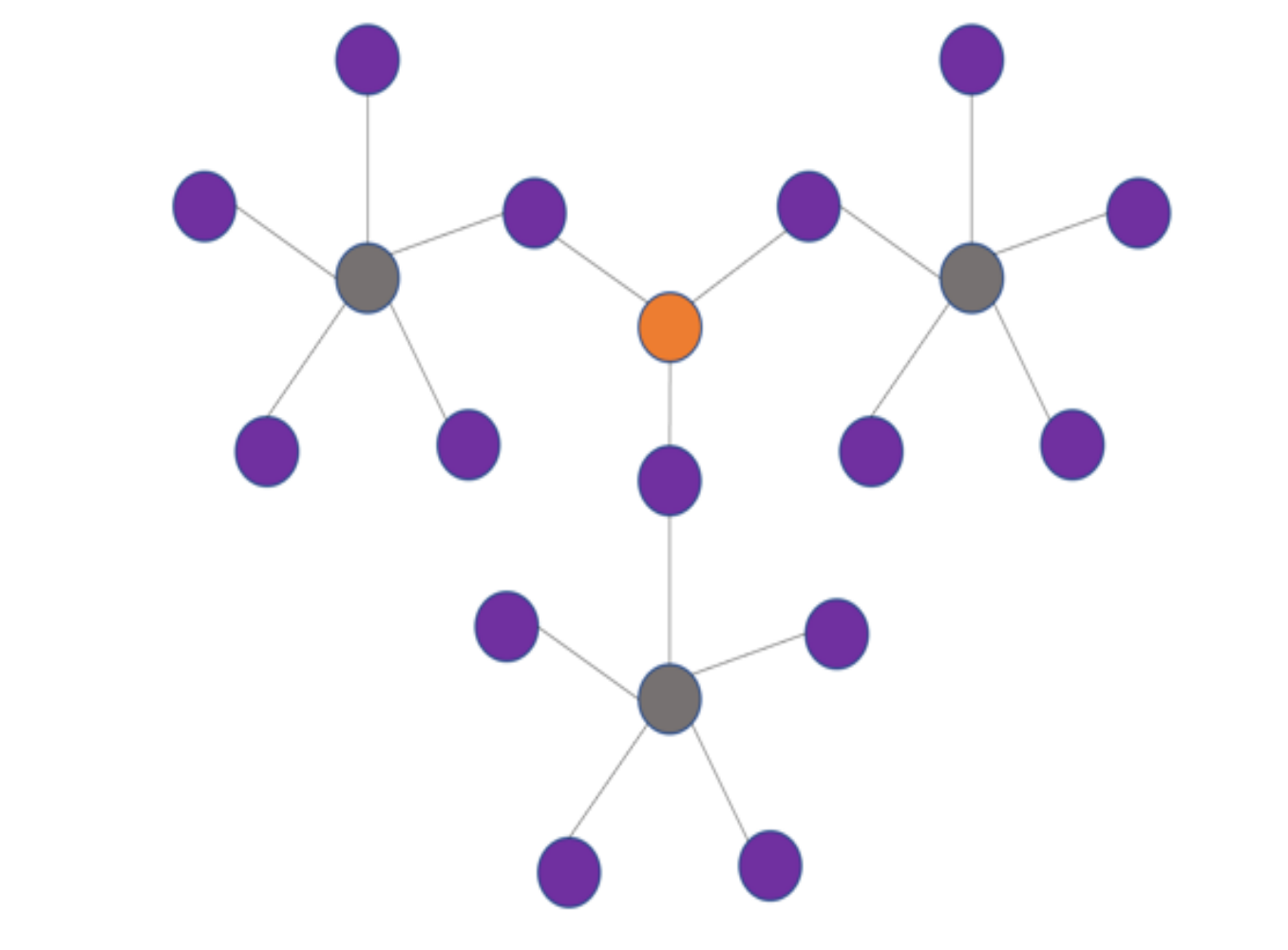
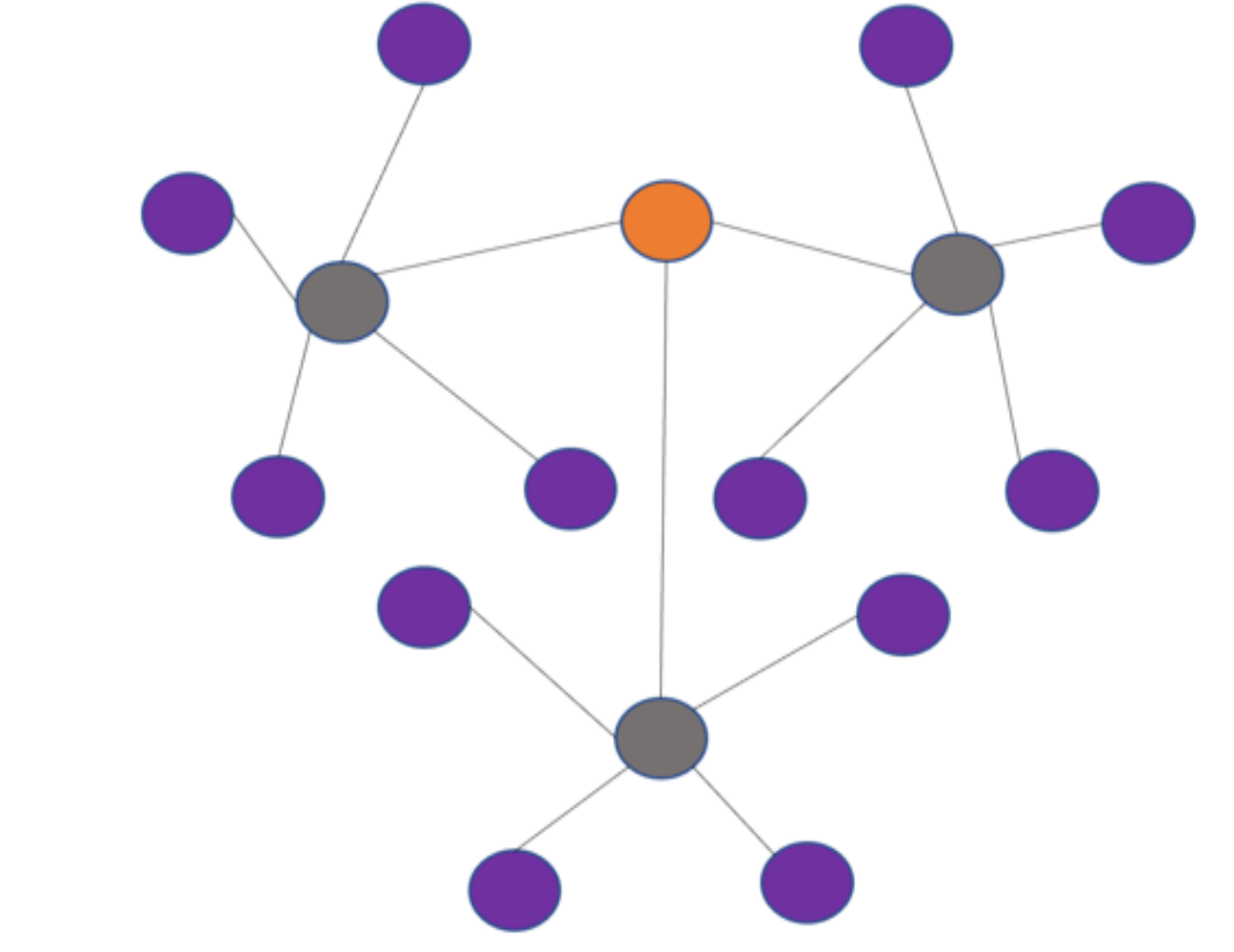
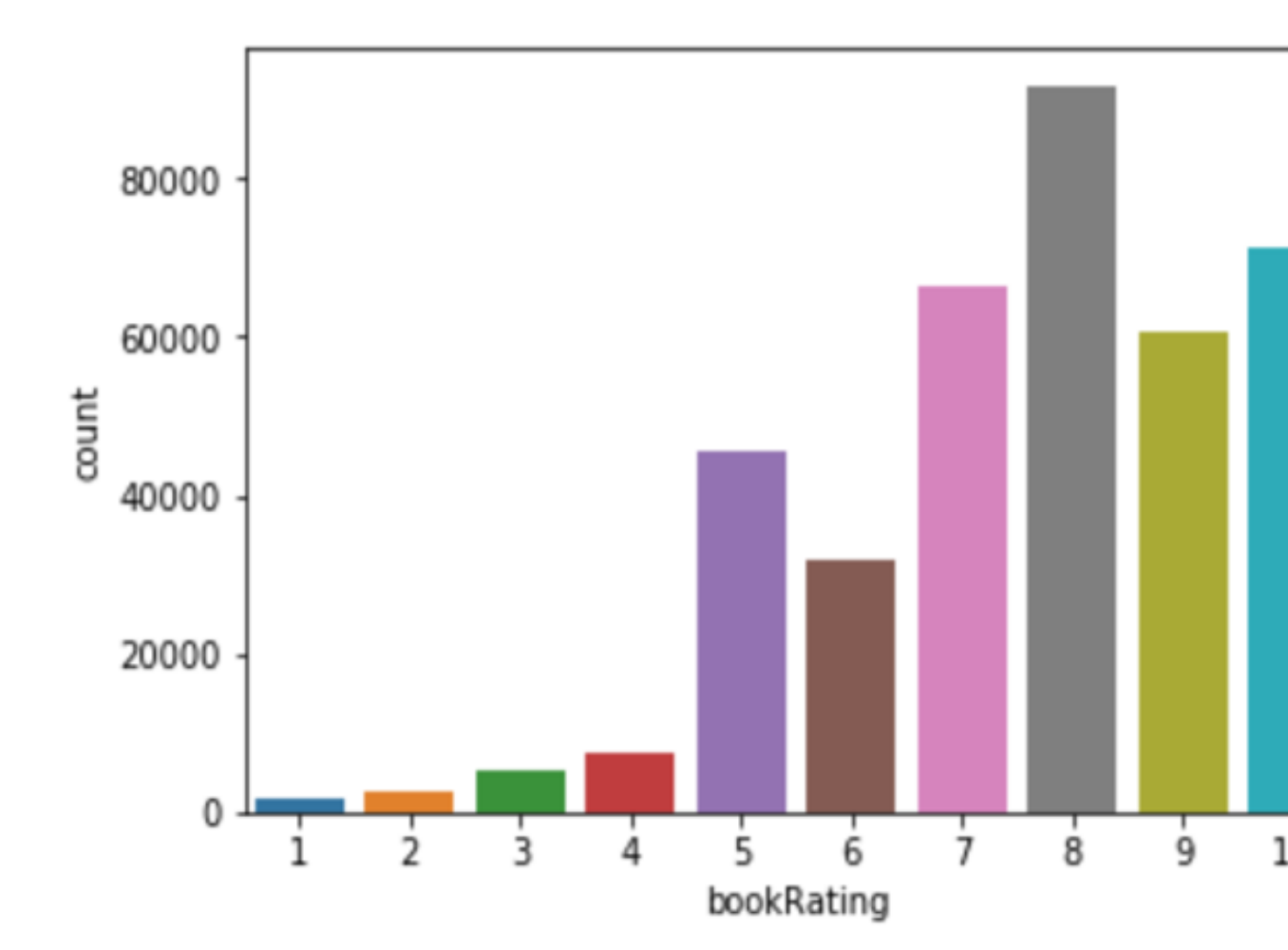
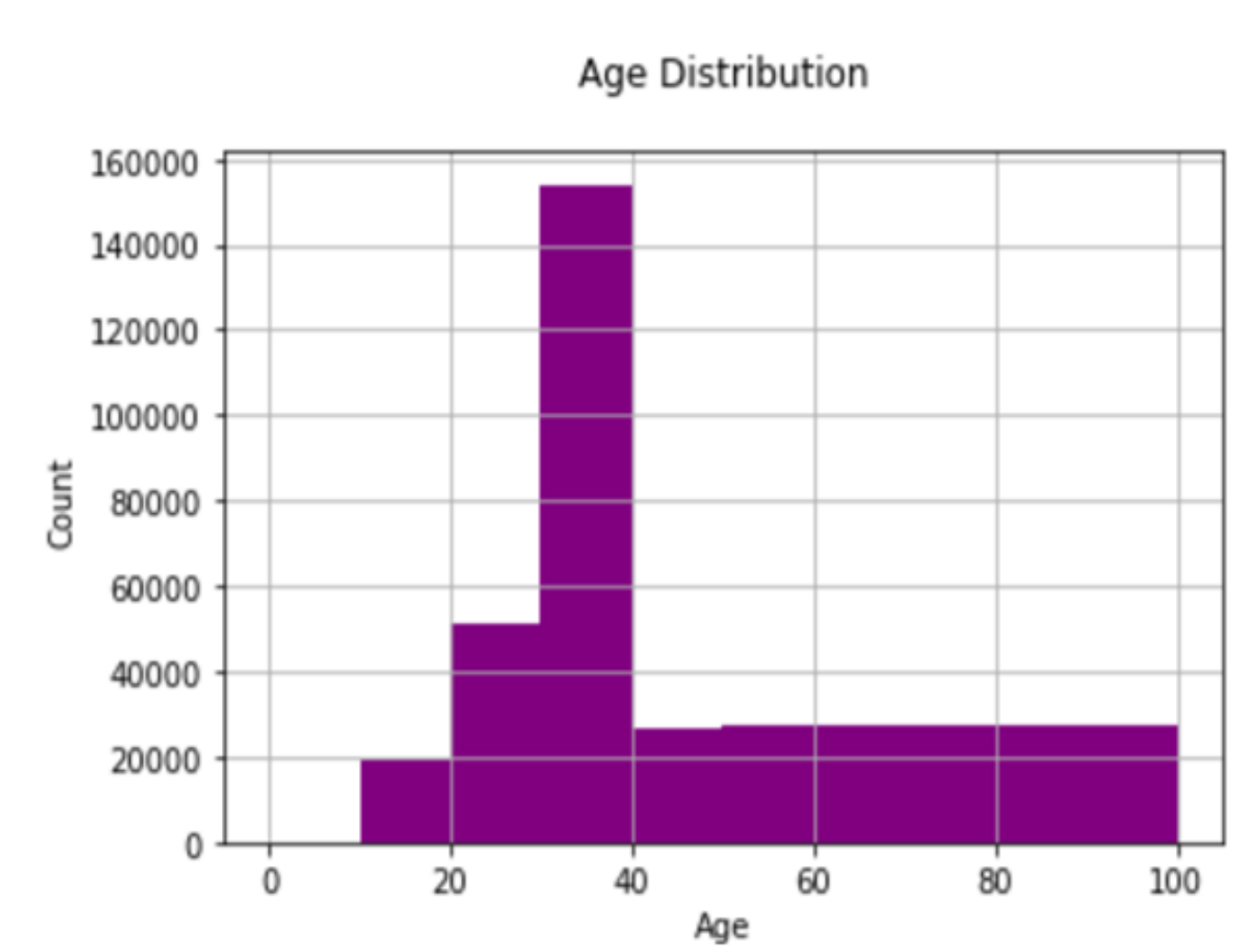
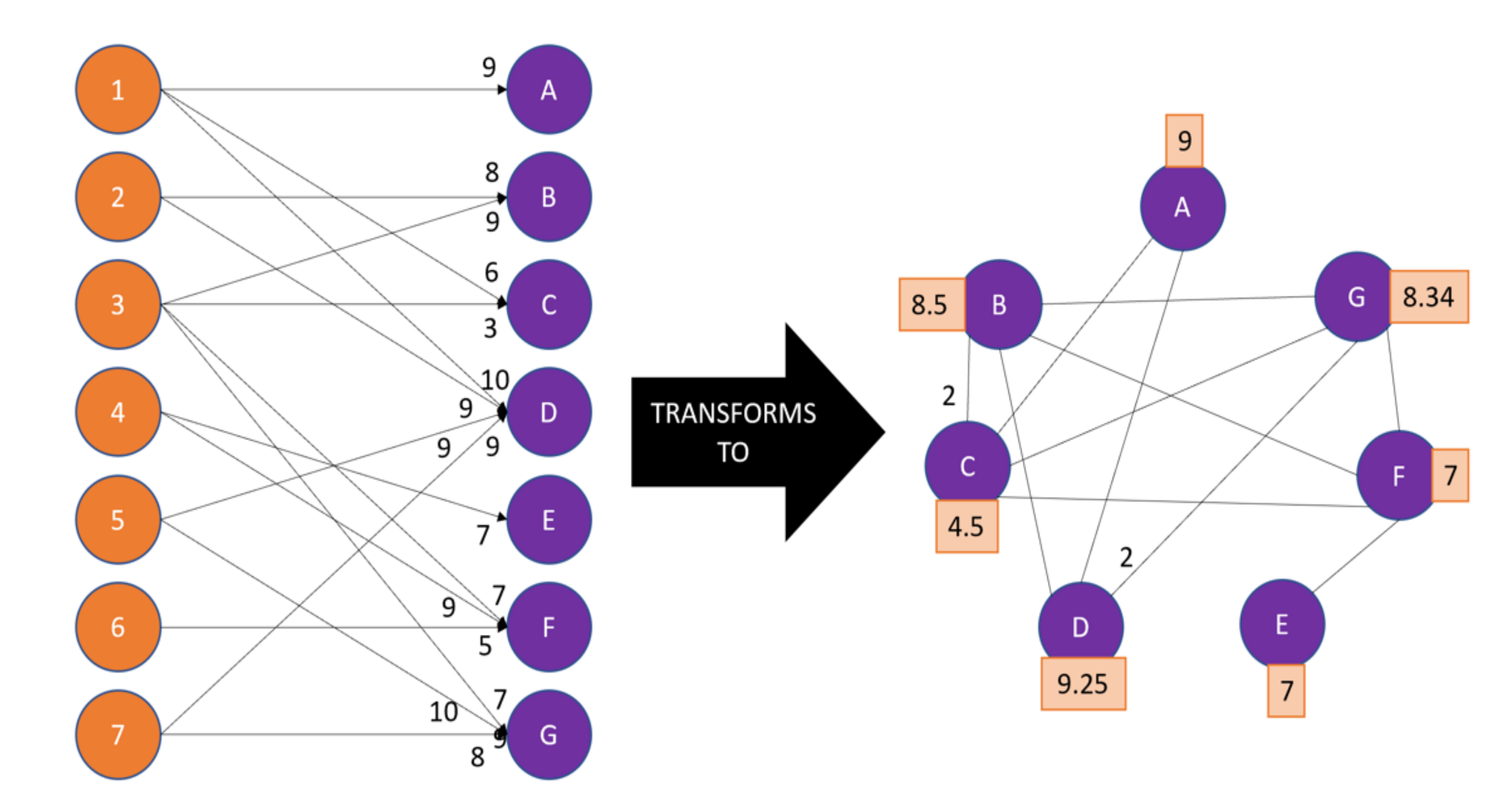
Algorithm

Dataset: BookCrossing User Ratings

Users: 278854, Books: 271361

ISBN	bookRating	rating_count
0316666343	8.185290	707
0971880107	4.390706	581
0385504209	8.435318	487
0312195516	8.182768	383
0060928336	7.887500	320
059035342X	8.939297	313
0142001740	8.452769	307
0446672211	8.142373	295
044023722X	7.338078	281
0452282152	7.982014	278

Subgraph Generation



Age Distribution

Rating distribution

Common neighbors

Common paths

Results and Time Analysis

Book based

User based

Your reading list is:

213781 Harry Potter and the Order of the Phoenix (Boo...

Name: bookTitle, dtype: object

3459 Harry Potter and the Chamber of Secrets (Book 2)

Name: bookTitle, dtype: object

9339 Harry Potter and the Prisoner of Azkaban (Book 3)

Name: bookTitle, dtype: object

From observations we made on your reading list, we recommend you read:

5431 Harry Potter and the Goblet of Fire (Book 4)

Name: bookTitle, dtype: object

5432 Harry Potter and the Chamber of Secrets (Book 2)

Name: bookTitle, dtype: object

2889 Harry Potter and the Sorcerer's Stone (Book 1)

Name: bookTitle, dtype: object

77242 Valvet Song

Name: bookTitle, dtype: object

93596 George & the Virgin

Name: bookTitle, dtype: object

1143 Harry Potter and the Sorcerer's Stone (Harry P...

Name: bookTitle, dtype: object

4893 J. K. Rowling: The Wizard Behind Harry Potter

Name: bookTitle, dtype: object

81736 The Foulwars of Sweet Valley (Sweet Valley Saga)

Name: bookTitle, dtype: object

3476 Jane Eyre (Bantam Classics)

Name: bookTitle, dtype: object

You are currently viewing:

123834 Confederacy of the Dead

Name: bookTitle, dtype: object

We recommend that you read:

123951 Adulthood Rites: Xenogenesis (Butler, Octavia/...

Name: bookTitle, dtype: object

123963 The Dragon and the Fair Maid of Kent

Name: bookTitle, dtype: object

123959 Widow's Weeds (Clan Novel: Tremere Trilogy, Bo...

Name: bookTitle, dtype: object

123883 Dark Tyrants (Vampire - the Dark Ages)

Name: bookTitle, dtype: object

123958 Widow's Walk (Clan Novel: Tremere Trilogy, Boo...

Name: bookTitle, dtype: object

123884 Sea Horse (Saddle Club (Paperback))

Name: bookTitle, dtype: object

123899 Tunes for Bears to Dance to

Name: bookTitle, dtype: object

123891 X.Y

Name: bookTitle, dtype: object

123962 The Nihiliststhe

Name: bookTitle, dtype: object

123961 Harooned (Star Trek Voyager, No 14)

Name: bookTitle, dtype: object

You are currently viewing:

52218 Little Women

Name: bookTitle, dtype: object

52439 Murder on the Ballarat Train

Name: bookTitle, dtype: object

52424 Sarum: The Novel of England

Name: bookTitle, dtype: object

52397 The Hakeover Murders

Name: bookTitle, dtype: object

52421 Dear Mom Thank You For Everything

Name: bookTitle, dtype: object

52408 The Chains of Fate

Name: bookTitle, dtype: object

52397 The Hakeover Murders

Name: bookTitle, dtype: object

52418 The Moon In the Water

Name: bookTitle, dtype: object

52397 The Hakeover Murders

Name: bookTitle, dtype: object

52396 Women as mothers

Name: bookTitle, dtype: object

48951 A Hundred and One Uses of a Dead Cat

Name: bookTitle, dtype: object

52421 Winter Solstice

Name: bookTitle, dtype: object

52387 Fresh Hiki: The Secret Life of Breasts

Name: bookTitle, dtype: object

You are currently viewing:

52172 Best of Sherlock Holmes

Name: bookTitle, dtype: object

162814 Warlock

Name: bookTitle, dtype: object

54684 Hontrous Regiment (Pratchett, Terry)

Name: bookTitle, dtype: object

144834 The People Next Door

Name: bookTitle, dtype: object

55575 The Piano Man's Daughter

Name: bookTitle, dtype: object

116249 Courage My Love: A Novel

Name: bookTitle, dtype: object

246514 Longshot Edition UK

Name: bookTitle, dtype: object

111358 The Stainless Steel Rat Joins The Circus (Stai...

Name: bookTitle, dtype: object

64872 Code to Zero

Name: bookTitle, dtype: object

6424 Great Expectations (Wordsworth Classics)

Name: bookTitle, dtype: object

28263 Deadlock (V.I. Warshawski Novels (Paperback))

Name: bookTitle, dtype: object

Your reading list is:

248971 Garzanti - Gli Elefanti: Dolori Del Giovane We...

Name: bookTitle, dtype: object

248969 El Lobo de Mar

Name: bookTitle, dtype: object

248944 Un peu plus loin sur la droite

Name: bookTitle, dtype: object

248936 Tom Strong - Book Two of the Heroic New Series

Name: bookTitle, dtype: object

248913 Tom Green - Udder Insanity

Name: bookTitle, dtype: object

248986 Hold Your Horses

Name: bookTitle, dtype: object

248907 My Brother's a World-Class Pain: A Sibling's G...

Name: bookTitle, dtype: object

248887 Pizza

Name: bookTitle, dtype: object

248880 Autumn Angel

Name: bookTitle, dtype: object

From observations we made on your reading list, we recommend you read:

24440 Tending Roses

Name: bookTitle, dtype: object

81596 The Life of Sir Arthur Conan Doyle

Name: bookTitle, dtype: object

24554 Blue Diary

Name: bookTitle, dtype: object

16879 Lullaby: A Novel

Name: bookTitle, dtype: object

24666 Breathing Water

Name: bookTitle, dtype: object

16883 The Hot Zone

Name: bookTitle, dtype: object

212699 Sins

Name: bookTitle, dtype: object

48867 The Watcher

Name: bookTitle, dtype: object

6424 Great Expectations (Wordsworth Classics)

Name: bookTitle, dtype: object

179948 Silence on Monte Sole

Name: bookTitle, dtype: object

You are currently viewing:

244887 The Ladies' Paradise (Oxford World's Classics ...

Name: bookTitle, dtype: object

198787 The Summer My Father Was Ten

Name: bookTitle, dtype: object

198693 David Wiseman's Tuesday/Book and Frog: Book Ba...

Name: bookTitle, dtype: object

198689 Cotton Comes to Harlem

Name: bookTitle, dtype: object

198679 Free Soil, Free Labor, Free Men: The Ideology ...

Name: bookTitle, dtype: object

198682 Nothing but Freedom: Emancipation and Its Lega...

Name: bookTitle, dtype: object

198679 Free Soil, Free Labor, Free Men: The Ideology ...

Name: bookTitle, dtype: object

198664 The Boy of the Three-Year Nap

Name: bookTitle, dtype: object

198661 The Mixed-Up Chameleon

Name: bookTitle, dtype: object

198659 Back to the Cabin

Name: bookTitle, dtype: object

From observations we made on your reading list, we recommend you rea

9989 Having Our Say : The Delany Sisters' First 100...

Name: bookTitle, dtype: object

198325 Human Geography : Culture, Society, and Space

Name: bookTitle, dtype: object

16855 Humanity: A Moral History of the Twentieth Cen...

Name: bookTitle, dtype: object

16856 Portnoy's Complaint

Name: bookTitle, dtype: object

57817 A Bright Shining Lie: John Paul Vann and Ameri...

Name: bookTitle, dtype: object

198328 Great Wall and the Empty Fortress: China's Sea...

Name: bookTitle, dtype: object

198332 Doctor Faustus and Other Plays (Oxford World's...

Name: bookTitle, dtype: object

198334 Rainbow (Voices from Asia, No 4)

Name: bookTitle, dtype: object

198338 Imperialism the Highest Stage of Capitalism

Name: bookTitle, dtype: object

71364 The Practice of Poetry : Writing Exercises Fro...

Name: bookTitle, dtype: object