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In [10]: #Practical - 8  
#Recommandetion system  
#Roll no:14bit152  
  
from scipy.stats.stats import pearsonr
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In [11]: import pandas as pd  
import numpy as np  
#import json
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In [12]: data = pd.read_csv("data_books.csv", sep = ",", header=None, names=['Revi  
ewer', 'Book', 'Rating'])
```

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In [13]: book_1 = "Harry Potter and the Chamber of Secrets (Book 2)"  
book_2 = "Harry Potter and the Sorcerer's Stone (Harry Potter (Paperback  
)")
```

```
In [14]: book_1_reviewers = data[data.Book == book_1].Reviewer  
book_2_reviewers = data[data.Book == book_2].Reviewer  
  
# Look for common reviewers  
common_reviewers = set(book_1_reviewers).intersection(book_2_reviewers)
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In [15]: print data[data.Book == book_1]
```

	Reviewer	Book	Rating
g 1605 8	278356	Harry Potter and the Chamber of Secrets (Book 2)	
2284 9	254	Harry Potter and the Chamber of Secrets (Book 2)	
2285 9	254	Harry Potter and the Chamber of Secrets (Book 2)	
4076 9	2033	Harry Potter and the Chamber of Secrets (Book 2)	
7269 7	4809	Harry Potter and the Chamber of Secrets (Book 2)	
7305 0	4896	Harry Potter and the Chamber of Secrets (Book 2)	1
9031 0	6431	Harry Potter and the Chamber of Secrets (Book 2)	1
11826 8	8245	Harry Potter and the Chamber of Secrets (Book 2)	
12238 0	8529	Harry Potter and the Chamber of Secrets (Book 2)	1
13178 7	9227	Harry Potter and the Chamber of Secrets (Book 2)	
14346 0	10560	Harry Potter and the Chamber of Secrets (Book 2)	1
17701 0	11676	Harry Potter and the Chamber of Secrets (Book 2)	1
17702 8	11676	Harry Potter and the Chamber of Secrets (Book 2)	
17730 0	11676	Harry Potter and the Chamber of Secrets (Book 2)	1
23579 8	12824	Harry Potter and the Chamber of Secrets (Book 2)	
25899 0	14456	Harry Potter and the Chamber of Secrets (Book 2)	1
27779 0	16181	Harry Potter and the Chamber of Secrets (Book 2)	1
30612 7	17667	Harry Potter and the Chamber of Secrets (Book 2)	
32197 9	19336	Harry Potter and the Chamber of Secrets (Book 2)	
33539 7	20501	Harry Potter and the Chamber of Secrets (Book 2)	
34024 9	21014	Harry Potter and the Chamber of Secrets (Book 2)	
35436 0	22252	Harry Potter and the Chamber of Secrets (Book 2)	1
35773 0	22625	Harry Potter and the Chamber of Secrets (Book 2)	1
37390 0	23872	Harry Potter and the Chamber of Secrets (Book 2)	1
39030 8	24145	Harry Potter and the Chamber of Secrets (Book 2)	
41123 9	25850	Harry Potter and the Chamber of Secrets (Book 2)	
41851 9	26190	Harry Potter and the Chamber of Secrets (Book 2)	
42991 8	26734	Harry Potter and the Chamber of Secrets (Book 2)	
43611 8	27401	Harry Potter and the Chamber of Secrets (Book 2)	
44414 0	28016	Harry Potter and the Chamber of Secrets (Book 2)	1
...	...	...	..
355280 0	253482	Harry Potter and the Chamber of Secrets (Book 2)	1
356048 0	254086	Harry Potter and the Chamber of Secrets (Book 2)	1
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In [16]: # print set(book_1_reviewers).intersection(book_2_reviewers)
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In [17]: def get_book_reviews(title, common_reviewers):  
         reviewer_books = (data.Reviewer.isin(common_reviewers)) & (data.Book  
         ==title)  
         reviews = data[reviewer_books].sort_values(by='Reviewer')  
         reviews = reviews[reviews.Reviewer.duplicated()==False]  
         return reviews
```

```
In [18]: book_1_reviews = get_book_reviews(book_1, common_reviewers)
book_2_reviews = get_book_reviews(book_2, common_reviewers)

print book_2_reviews
```

ng	Reviewer	Book	Rati
14378	10560	Harry Potter and the Sorcerer's Stone (Harry P...	
19131	11676	Harry Potter and the Sorcerer's Stone (Harry P...	
35786	22625	Harry Potter and the Sorcerer's Stone (Harry P...	
41852	26190	Harry Potter and the Sorcerer's Stone (Harry P...	
48826	30735	Harry Potter and the Sorcerer's Stone (Harry P...	
50518	31393	Harry Potter and the Sorcerer's Stone (Harry P...	
55319	35148	Harry Potter and the Sorcerer's Stone (Harry P...	
62253	38763	Harry Potter and the Sorcerer's Stone (Harry P...	
64430	40795	Harry Potter and the Sorcerer's Stone (Harry P...	
73534	48899	Harry Potter and the Sorcerer's Stone (Harry P...	
76661	51647	Harry Potter and the Sorcerer's Stone (Harry P...	
82393	55492	Harry Potter and the Sorcerer's Stone (Harry P...	
84715	56447	Harry Potter and the Sorcerer's Stone (Harry P...	
86252	57398	Harry Potter and the Sorcerer's Stone (Harry P...	
95294	65004	Harry Potter and the Sorcerer's Stone (Harry P...	
97237	66942	Harry Potter and the Sorcerer's Stone (Harry P...	
99676	68760	Harry Potter and the Sorcerer's Stone (Harry P...	
105348	72990	Harry Potter and the Sorcerer's Stone (Harry P...	
107258	74665	Harry Potter and the Sorcerer's Stone (Harry P...	
108373	75591	Harry Potter and the Sorcerer's Stone (Harry P...	
117634	81492	Harry Potter and the Sorcerer's Stone (Harry P...	
122006	85367	Harry Potter and the Sorcerer's Stone (Harry P...	
122915	85993	Harry Potter and the Sorcerer's Stone (Harry P...	
126452	88435	Harry Potter and the Sorcerer's Stone (Harry P...	
127311	88733	Harry Potter and the Sorcerer's Stone (Harry P...	
127673	88812	Harry Potter and the Sorcerer's Stone (Harry P...	
140369	97945	Harry Potter and the Sorcerer's Stone (Harry P...	
148374	99720	Harry Potter and the Sorcerer's Stone (Harry P...	
148619	100004	Harry Potter and the Sorcerer's Stone (Harry P...	
148846	100227	Harry Potter and the Sorcerer's Stone (Harry P...	
...	...	...	.
256773	180733	Harry Potter and the Sorcerer's Stone (Harry P...	
257332	181176	Harry Potter and the Sorcerer's Stone (Harry P...	

```
In [19]: correlation_coefficient = pearsonr(book_1_reviews.Rating, book_2_reviews
        .Rating)[0]
        #print book_1_reviews.Rating
```

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In [36]: print correlation_coefficient
0.869647366453
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In [ ]:
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