

```
3 # given that a customer has purchased
4 import numpy as np
5 import pandas as pd
6 from sklearn.metrics.pairwise import cosine_similarity
7
8 r_cols = ['user_id', 'book_id', 'rating']
9 ratings = pd.read_csv('Ratings.csv')
10 m_cols = ['book_id', 'title']
11 books = pd.read_csv('Books.csv')
12 ratings = pd.merge(books, ratings)
13 ratings.head()
14 bookRatings = ratings.pivot_table(index=['User_ID'], columns=['title'], values='Book-Rating')
15 bookRatings.head()
16 summerlandRatings = bookRatings['Summerland']
17 summerlandRatings.head()
18 similarBooks = bookRatings.corrwith(summerlandRatings)
19 similarBooks = similarBooks.dropna()
20 bookStats = ratings.groupby('title').agg({'rating': [np.size, np.mean]})
21 bookStats.head()
22 popularBooks = bookStats['rating']['size'] >= 100
23 bookStats[popularBooks].sort_values(['rating', 'mean'], ascending=False)[:15]
24 df = bookStats[popularBooks].join(pd.DataFrame(similarBooks, columns=['similarity']))
25 df.head()
26 df.sort_values(['similarity'], ascending=False)[:15]
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL Python

```
table = __internal_pivot_table(
~~~~~
File "/Library/Frameworks/Python.framework/Versions/3.11/lib/python3.11/site-packages/pandas/core/reshape/pivot.py", line 165, in __internal_piv
grouped = data.groupby(keys, observed=observed, sort=sort)
~~~~~
File "/Library/Frameworks/Python.framework/Versions/3.11/lib/python3.11/site-packages/pandas/core/frame.py", line 8389, in groupby
return DataFrameGroupBy(
~~~~~
File "/Library/Frameworks/Python.framework/Versions/3.11/lib/python3.11/site-packages/pandas/core/groupby/groupby.py", line 959, in __init__
grouper, exclusions, obj = get_grouper(
~~~~~
File "/Library/Frameworks/Python.framework/Versions/3.11/lib/python3.11/site-packages/pandas/core/groupby/grouper.py", line 888, in get_grouper
raise KeyError(gpr)
KeyError: 'User_ID'
```

Output wont work