

```
In [1]: import pandas as pd
```

```
In [2]: A=pd.read_csv("C:/Users/ASUS/Downloads/movies.csv",usecols=["movieId","title"])
```

```
In [3]: A.head()
```

Out[3]:

	movieId	title
0	1	Toy Story (1995)
1	2	Jumanji (1995)
2	3	Grumpier Old Men (1995)
3	4	Waiting to Exhale (1995)
4	5	Father of the Bride Part II (1995)

```
In [4]: A.columns
```

Out[4]: Index(['movieId', 'title'], dtype='object')

```
In [5]: A.isna().sum()
```

Out[5]: movieId 0  
title 0  
dtype: int64

```
In [6]: B=pd.read_csv("C:/Users/ASUS/Downloads/ratings.csv")
```

```
In [7]: B.head()
```

Out[7]:

	userId	movieId	rating	timestamp
0	1	1	4.0	964982703
1	1	3	4.0	964981247
2	1	6	4.0	964982224
3	1	47	5.0	964983815
4	1	50	5.0	964982931

```
In [8]: B.columns
```

Out[8]: Index(['userId', 'movieId', 'rating', 'timestamp'], dtype='object')

```
In [9]: B.isna().sum()
```

Out[9]: userId 0  
movieId 0  
rating 0  
timestamp 0  
dtype: int64

```
In [10]: A_users=B.pivot(index='movieId',columns='userId',values='rating').fillna(0)
```

```
In [11]: A_users
```

Out[11]:

	userId	1	2	3	4	5	6	7	8	9	10	...	601	602	603	604	605	606	607	608	609	610
movieId																						
1	4.0	0.0	0.0	0.0	4.0	0.0	4.5	0.0	0.0	0.0	0.0	...	4.0	0.0	4.0	3.0	4.0	2.5	4.0	2.5	3.0	5.0
2	0.0	0.0	0.0	0.0	0.0	4.0	0.0	4.0	0.0	0.0	0.0	...	0.0	4.0	0.0	5.0	3.5	0.0	0.0	2.0	0.0	0.0
3	4.0	0.0	0.0	0.0	0.0	5.0	0.0	0.0	0.0	0.0	0.0	...	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0
4	0.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	...	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	0.0	0.0	0.0	0.0	0.0	5.0	0.0	0.0	0.0	0.0	0.0	...	0.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
193581	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	...	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
193583	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	...	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
193585	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	...	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
193587	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	...	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
193609	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	...	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

9724 rows × 610 columns

```
In [12]: from scipy.sparse import csr_matrix
```

```
In [13]: mat_A=csr_matrix(A_users.values)
```

```
In [14]: mat_A
```

```
Out[14]: <9724x610 sparse matrix of type '<class 'numpy.float64'>'
         with 100836 stored elements in Compressed Sparse Row format>
```

```
In [15]: from sklearn.neighbors import NearestNeighbors
         model=NearestNeighbors(metric='cosine',algorithm='brute',n_neighbors=20)
         model.fit(mat_A)
```

```
Out[15]: 

NearestNeighbors


         NearestNeighbors(algorithm='brute', metric='cosine', n_neighbors=20)
```

```
In [25]: pip install fuzzywuzzy
```

Requirement already satisfied: fuzzywuzzy in c:\users\asus\anaconda3\lib\site-packages (0.18.0)Note: you may need to restart the kernel to use updated packages.

```
In [27]: from warnings import filterwarnings
         filterwarnings("ignore")
```

```
In [28]: from fuzzywuzzy import process
```

```
In [29]: def recommender(A_name,data,n):
         index=process.extractOne(A_name,A['title'])[2]
         print("movie selected:",A['title'][index],'index:',index)
         print('Searching for Recommendation.....')
         distance,indices=model.kneighbors(data[index],n_neighbors=n)
         for i in indices:
             print(A['title'][i].where(i!=index))
```

```
In [30]: recommender('toy story',mat_A,10)
```

```
movie selected: Toy Story (1995) index: 0
Searching for Recommendation.....
0                                     NaN
2353                                'night Mother (1986)
418                                Jurassic Park (1993)
615                Independence Day (a.k.a. ID4) (1996)
224                Star Wars: Episode IV - A New Hope (1977)
314                                Forrest Gump (1994)
322                                Lion King, The (1994)
910    Once Upon a Time in the West (C'era una volta ...
546                                Mission: Impossible (1996)
963                                Diva (1981)
Name: title, dtype: object
```

```
In [31]: recommender('Jumanji',mat_A,10)
```

```
movie selected: Jumanji (1995) index: 1
Searching for Recommendation.....
1                                     NaN
322                                Lion King, The (1994)
436                                Mrs. Doubtfire (1993)
325                                Mask, The (1994)
418                                Jurassic Park (1993)
504                                Home Alone (1990)
483    Nightmare Before Christmas, The (1993)
506                                Aladdin (1992)
512                                Beauty and the Beast (1991)
18    Ace Ventura: When Nature Calls (1995)
Name: title, dtype: object
```

```
In [32]: recommender('Mrs. Doubtfire',mat_A,10)
```

```
movie selected: Mrs. Doubtfire (1993) index: 436
Searching for Recommendation.....
436                                     NaN
514                Pretty Woman (1990)
322                Lion King, The (1994)
505                Ghost (1990)
334                Speed (1994)
418                Jurassic Park (1993)
314                Forrest Gump (1994)
504                Home Alone (1990)
325                Mask, The (1994)
472    Sleepless in Seattle (1993)
Name: title, dtype: object
```

```
In [ ]:
```