In [5]:

```
import pandas as pd
movies=pd.read_csv("C:/Users/admin/Desktop/dataset/movies.csv",usecols=["movieId","title"])
```

In [8]:

```
movies.columns
```

Out[8]:

```
Index(['movieId', 'title'], dtype='object')
```

In [6]:

```
movies.head()
```

Out[6]:

	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 [7]:

```
movies.isna().sum()
```

Out[7]:

```
movieId    0
title      0
dtype: int64
```

In [11]:

```
rating=pd.read_csv("C:/Users/admin/Desktop/dataset/ratings.csv",usecols=["userId","movieId","rating"])
```

In [12]:

```
rating.head()
```

Out[12]:

	userId	movieId	rating
0	1	1	4.0
1	1	3	4.0
2	1	6	4.0
3	1	47	5.0
4	1	50	5.0

In [15]:

```
movies_user=rating.pivot(index="movieId",columns="userId",values="rating").fillna(0)
```

In [16]:

```
movies_user
```

Out[16]:

userId	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46
movieId																																														
1	4.0	0.0	0.0	0.0	4.0	0.0	4.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.5	0.0	4.5	3.5	4.0	0.0	3.5	0.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0	0.0	5.0	3.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	5.0	0.0	0.0	5.0	3.0	4.0	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	0.0	0.0	0.0	0.0	0.0	3.0	3.0	3.0	3.5	0.0	0.0	0.0	0.0	0.0	4.0	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
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	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	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.0	5.0	3.0	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	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	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
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	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	3.0	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	3.0	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	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	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	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	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	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	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	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	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	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	0.0	0.0	0.0	0.0

9724 rows × 610 columns

In [20]:

```
from scipy.sparse import csr_matrix
```

In [22]:

```
mat_Movies=csr_matrix(movies_user.values)
```

In [23]:

```
mat_Movies
```

Out[23]:

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

In [25]:

```
from sklearn.neighbors import NearestNeighbors
model=NearestNeighbors(metric="cosine",algorithm="brute",n_neighbors=20)
model.fit(movies_user)
```

Out[25]:

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

In [28]:

```
pip install fuzzywuzzy
```

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

In [30]:

```
from warnings import filterwarnings
filterwarnings("ignore")
```

In [31]:

```
from fuzzywuzzy import process
```

In [34]:

```
def recommender(movie_name,data,n):
    index=process.extractOne(movie_name,movies["title"])[2]
    print("movie selected:",movies['title'][index],'index:',index)
    print("searching for recommendation............")
    distance,indices=model.kneighbors(data[index],n_neighbors=n)
    for i in indices:
        print(movies['title'][i].where(i!=index))
```

In [35]:

```
recommender('toy story',mat_Movies,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 [37]:

```
recommender('Forrest Gump',mat_Movies,10)
```

```
movie selected: Forrest Gump (1994) index: 314
searching for recommendation............
314                                  NaN
277     Shawshank Redemption, The (1994)
418                 Jurassic Park (1993)
257                  Pulp Fiction (1994)
97                     Braveheart (1995)
510     Silence of the Lambs, The (1991)
123                     Apollo 13 (1995)
1938         Walk on the Moon, A (1999)
436                Mrs. Doubtfire (1993)
461              Schindler's List (1993)
Name: title, dtype: object
```

In [38]:

```
recommender('Jumanji',mat_Movies,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 [ ]:
```