

```
import numpy as np
import pandas as pd
import seaborn as sns
import matplotlib.pyplot as plt
%matplotlib inline
```

```
df = pd.read_table(r'C:\Users\HP\Desktop\New folder (2)\movies.data')
df
```

	1	Unnamed: 1	Toy Story (1995)	Unnamed: 3
\				
0	2	NaN	Jumanji (1995)	NaN
1	3	NaN	Grumpier Old Men (1995)	NaN
2	4	NaN	Waiting to Exhale (1995)	NaN
3	5	NaN	Father of the Bride Part II (1995)	NaN
4	6	NaN	Heat (1995)	NaN
...
3877	3948	NaN	Meet the Parents (2000)	NaN
3878	3949	NaN	Requiem for a Dream (2000)	NaN
3879	3950	NaN	Tigerland (2000)	NaN
3880	3951	NaN	Two Family House (2000)	NaN
3881	3952	NaN	Contender, The (2000)	NaN

	Animation Children's Comedy	Unnamed: 5	Unnamed: 6
0	Adventure Children's Fantasy	NaN	NaN
1	Comedy Romance	NaN	NaN
2	Comedy Drama	NaN	NaN
3	Comedy	NaN	NaN
4	Action Crime Thriller	NaN	NaN
...
3877	Comedy	NaN	NaN
3878	Drama	NaN	NaN
3879	Drama	NaN	NaN
3880	Drama	NaN	NaN
3881	Drama Thriller	NaN	NaN

```
[3882 rows x 7 columns]
```

```
df1 = pd.read_csv(r"C:\Users\HP\Desktop\ps\movies.csv")
df1
```

	MovieID	Unnamed: 1	Title	Unnamed:
3 \				
0	1	NaN	Toy Story (1995)	
NaN				
1	2	NaN	Jumanji (1995)	
NaN				
2	3	NaN	Grumpier Old Men (1995)	
NaN				
3	4	NaN	Waiting to Exhale (1995)	
NaN				
4	5	NaN	Father of the Bride Part II (1995)	
NaN				
...
..				
3878	3948	NaN	Meet the Parents (2000)	
NaN				
3879	3949	NaN	Requiem for a Dream (2000)	
NaN				
3880	3950	NaN	Tigerland (2000)	
NaN				
3881	3951	NaN	Two Family House (2000)	
NaN				
3882	3952	NaN	Contender, The (2000)	
NaN				

	Genres	Unnamed: 5	Unnamed: 6
0	Animation Children's Comedy	NaN	NaN
1	Adventure Children's Fantasy	NaN	NaN
2	Comedy Romance	NaN	NaN
3	Comedy Drama	NaN	NaN
4	Comedy	NaN	NaN
...
3878	Comedy	NaN	NaN
3879	Drama	NaN	NaN
3880	Drama	NaN	NaN
3881	Drama	NaN	NaN
3882	Drama Thriller	NaN	NaN

[3883 rows x 7 columns]

```
df1.drop(['Unnamed: 1', 'Unnamed: 3', 'Unnamed: 5', 'Unnamed: 6'], axis=1, inplace=True)
df1
```

	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)
...
3878	3948	Meet the Parents (2000)
3879	3949	Requiem for a Dream (2000)
3880	3950	Tigerland (2000)
3881	3951	Two Family House (2000)
3882	3952	Contender, The (2000)

	Genres
0	Animation Children's Comedy
1	Adventure Children's Fantasy
2	Comedy Romance
3	Comedy Drama
4	Comedy
...	...
3878	Comedy
3879	Drama
3880	Drama
3881	Drama
3882	Drama Thriller

[3883 rows x 3 columns]

```
df2 = pd.read_csv(r"C:\Users\HP\Desktop\ps\rating.csv")
df2
```

	UserID	Unnamed: 1	MovieID	Unnamed: 3	Rating	Unnamed:
5 \						
0	1	NaN	1193	NaN	5	NaN
1	1	NaN	661	NaN	3	NaN
2	1	NaN	914	NaN	3	NaN
3	1	NaN	3408	NaN	4	NaN
4	1	NaN	2355	NaN	5	NaN
...
1000204	6040	NaN	1091	NaN	1	NaN
1000205	6040	NaN	1094	NaN	5	NaN
1000206	6040	NaN	562	NaN	5	NaN
1000207	6040	NaN	1096	NaN	4	NaN

1000208	6040	NaN	1097	NaN	4	NaN
---------	------	-----	------	-----	---	-----

	Timestamp
0	978300760
1	978302109
2	978301968
3	978300275
4	978824291

...	...
1000204	956716541
1000205	956704887
1000206	956704746
1000207	956715648
1000208	956715569

[1000209 rows x 7 columns]

```
df2.drop(['Unnamed: 1','Unnamed: 3','Unnamed: 5'],axis=1,inplace=True)
df2
```

	UserID	MovieID	Rating	Timestamp
0	1	1193	5	978300760
1	1	661	3	978302109
2	1	914	3	978301968
3	1	3408	4	978300275
4	1	2355	5	978824291
...
1000204	6040	1091	1	956716541
1000205	6040	1094	5	956704887
1000206	6040	562	5	956704746
1000207	6040	1096	4	956715648
1000208	6040	1097	4	956715569

[1000209 rows x 4 columns]

```
df3 = pd.read_csv(r"C:\Users\HP\Desktop\ps\user.csv")
df3
```

	UserID	Unnamed: 1	Gender	Unnamed: 3	Age	Unnamed: 5
Occupation \						
0	1	NaN	F	NaN	1	NaN
10						
1	2	NaN	M	NaN	56	NaN
16						
2	3	NaN	M	NaN	25	NaN
15						
3	4	NaN	M	NaN	45	NaN
7						
4	5	NaN	M	NaN	25	NaN
20						

```

...      ...      ...      ...      ...      ...      .
..
6035      6036      NaN      F      NaN      25      NaN
15
6036      6037      NaN      F      NaN      45      NaN
1
6037      6038      NaN      F      NaN      56      NaN
1
6038      6039      NaN      F      NaN      45      NaN
0
6039      6040      NaN      M      NaN      25      NaN
6

```

```

      Unnamed: 7 Zip-code
0      NaN      48067
1      NaN      70072
2      NaN      55117
3      NaN      2460
4      NaN      55455
...      ...      ...
6035      NaN      32603
6036      NaN      76006
6037      NaN      14706
6038      NaN      1060
6039      NaN      11106

```

[6040 rows x 9 columns]

```

df3.drop(['Unnamed: 1','Unnamed: 3','Unnamed: 5','Unnamed:
7'],axis=1,inplace=True)
df3

```

```

      UserID Gender  Age  Occupation  Zip-code
0          1      F    1          10    48067
1          2      M   56          16    70072
2          3      M   25          15    55117
3          4      M   45           7     2460
4          5      M   25          20    55455
...      ...      ...      ...      ...      ...
6035      6036      F   25          15    32603
6036      6037      F   45           1    76006
6037      6038      F   56           1    14706
6038      6039      F   45           0     1060
6039      6040      M   25           6    11106

```

[6040 rows x 5 columns]

```

df4= pd.merge(df1,df2,on='MovieID',how='inner')
df4

```

UserID \	MovieID	Title	Genres
0	1	Toy Story (1995)	Animation Children's Comedy
1	1	Toy Story (1995)	Animation Children's Comedy
6	1	Toy Story (1995)	Animation Children's Comedy
8	1	Toy Story (1995)	Animation Children's Comedy
9	1	Toy Story (1995)	Animation Children's Comedy
10	1	Toy Story (1995)	Animation Children's Comedy
...
10002045812	3952	Contender, The (2000)	Drama Thriller
10002055831	3952	Contender, The (2000)	Drama Thriller
10002065837	3952	Contender, The (2000)	Drama Thriller
10002075927	3952	Contender, The (2000)	Drama Thriller
10002085998	3952	Contender, The (2000)	Drama Thriller

	Rating	Timestamp
0	5	978824268
1	4	978237008
2	4	978233496
3	5	978225952
4	5	978226474
...
1000204	4	992072099
1000205	3	986223125
1000206	4	1011902656
1000207	1	979852537
1000208	4	1001781044

[1000209 rows x 6 columns]

```
df4.drop(['Genres', 'Timestamp'],axis=1,inplace=True)
df4
```

	MovieID	Title	UserID	Rating
0	1	Toy Story (1995)	1	5
1	1	Toy Story (1995)	6	4
2	1	Toy Story (1995)	8	4
3	1	Toy Story (1995)	9	5
4	1	Toy Story (1995)	10	5
...

1000204	3952	Contender, The (2000)	5812	4
1000205	3952	Contender, The (2000)	5831	3
1000206	3952	Contender, The (2000)	5837	4
1000207	3952	Contender, The (2000)	5927	1
1000208	3952	Contender, The (2000)	5998	4

[1000209 rows x 4 columns]

```
df5= pd.merge(df4,df3,on='UserID',how='inner')
df5
```

Age \	MovieID	Title	UserID	Rating	Gender
0	1	Toy Story (1995)	1	5	F
1					
1	48	Pocahontas (1995)	1	5	F
1					
2	150	Apollo 13 (1995)	1	5	F
1					
3	260	Star Wars	1	4	F
1					
4	527	Schindler's List (1993)	1	5	F
1					
...
..					
1000204	3513	Rules of Engagement (2000)	5727	4	M
25					
1000205	3535	American Psycho (2000)	5727	2	M
25					
1000206	3536	Keeping the Faith (2000)	5727	5	M
25					
1000207	3555	U-571 (2000)	5727	3	M
25					
1000208	3578	Gladiator (2000)	5727	5	M
25					

	Occupation	Zip-code
0	10	48067
1	10	48067
2	10	48067
3	10	48067
4	10	48067
...
1000204	4	92843
1000205	4	92843
1000206	4	92843
1000207	4	92843
1000208	4	92843

[1000209 rows x 8 columns]

```
df5.drop('Zip-code',axis=1,inplace=True)
df5
```

Age \	MovieID	Title	UserID	Rating	Gender
0	1	Toy Story (1995)	1	5	F
1	48	Pocahontas (1995)	1	5	F
1	150	Apollo 13 (1995)	1	5	F
2	260	Star Wars	1	4	F
1	527	Schindler's List (1993)	1	5	F
1
1000204	3513	Rules of Engagement (2000)	5727	4	M
25	1000205	3535 American Psycho (2000)	5727	2	M
25	1000206	3536 Keeping the Faith (2000)	5727	5	M
25	1000207	3555 U-571 (2000)	5727	3	M
25	1000208	3578 Gladiator (2000)	5727	5	M

	Occupation
0	10
1	10
2	10
3	10
4	10
...	...
1000204	4
1000205	4
1000206	4
1000207	4
1000208	4

```
[1000209 rows x 7 columns]
from matplotlib import style
df6=df5[['Title','Rating']]
df6
```

	Title	Rating
0	Toy Story (1995)	5
1	Pocahontas (1995)	5

2	Apollo 13 (1995)	5
3	Star Wars	4
4	Schindler's List (1993)	5
...
1000204	Rules of Engagement (2000)	4
1000205	American Psycho (2000)	2
1000206	Keeping the Faith (2000)	5
1000207	U-571 (2000)	3
1000208	Gladiator (2000)	5

[1000209 rows x 2 columns]

```
df7=df6.sort_values("Rating")
df7
```

	Title	Rating
857157	Sliding Doors (1998)	1
575675	Operation Dumbo Drop (1995)	1
196709	In the Army Now (1994)	1
65101	Soldier (1998)	1
65099	Strangeland (1998)	1
...
562617	Young Sherlock Holmes (1985)	5
562615	Shakespeare in Love (1998)	5
562609	Producers, The (1968)	5
562629	Three Days of the Condor (1975)	5
1000208	Gladiator (2000)	5

[1000209 rows x 2 columns]

```
df7.tail(25)
```

	Title	Rating
562541	Strictly Ballroom (1992)	5
562585	Take the Money and Run (1969)	5
562598	Strangers on a Train (1951)	5
562600	Shadow of a Doubt (1943)	5
562602	Suspicion (1941)	5
562663	No Way Out (1987)	5
562661	Double Indemnity (1944)	5
562658	Dog Day Afternoon (1975)	5
562656	Born Yesterday (1950)	5
562652	Talented Mr. Ripley, The (1999)	5
562649	Toy Story 2 (1999)	5
562640	Who Framed Roger Rabbit? (1988)	5
562633	Body Heat (1981)	5
562672	Heat (1995)	5
562630	American Beauty (1999)	5
562628	Christmas Story, A (1983)	5
562627	Big (1988)	5
562626	And Now for Something Completely Different (1971)	5

562623	Sixth Sense, The (1999)	5
562618	Name of the Rose, The (1986)	5
562617	Young Sherlock Holmes (1985)	5
562615	Shakespeare in Love (1998)	5
562609	Producers, The (1968)	5
562629	Three Days of the Condor (1975)	5
1000208	Gladiator (2000)	5

```
df2[['UserID']]
```

	UserID
0	1
1	1
2	1
3	1
4	1
...	...
1000204	6040
1000205	6040
1000206	6040
1000207	6040
1000208	6040

```
[1000209 rows x 1 columns]
```

```
df2[df2.UserID==2696]
```

	UserID	MovieID	Rating	Timestamp
440667	2696	1258	4	973308710
440668	2696	1270	2	973308676
440669	2696	1617	4	973308842
440670	2696	1625	4	973308842
440671	2696	1644	2	973308920
440672	2696	1645	4	973308904
440673	2696	1805	4	973308886
440674	2696	1892	4	973308904
440675	2696	800	5	973308842
440676	2696	2338	2	973308920
440677	2696	1711	4	973308904
440678	2696	3176	4	973308865
440679	2696	2389	4	973308710
440680	2696	1589	3	973308865
440681	2696	2713	1	973308710
440682	2696	3386	1	973308842
440683	2696	1783	4	973308865
440684	2696	350	3	973308886
440685	2696	1092	4	973308886
440686	2696	1097	3	973308690

```
df1["Genres"].unique()
```

```

array(["Animation|Children's|Comedy", "Adventure|Children's|Fantasy",
      'Comedy|Romance', 'Comedy|Drama', 'Comedy',
      'Action|Crime|Thriller', "Adventure|Children's", 'Action',
      'Action|Adventure|Thriller', 'Comedy|Drama|Romance', nan,
      "Animation|Children's", 'Drama', 'Action|Adventure|Romance',
      'Drama|Thriller', 'Drama|Romance', 'Thriller',
      'Action|Comedy|Drama', 'Crime|Drama|Thriller', 'Drama|Sci-Fi',
      'Romance', 'Adventure|Sci-Fi', 'Adventure|Romance',
      "Children's|Comedy|Drama", 'Documentary', 'Drama|War',
      'Action|Crime|Drama', 'Action|Adventure', 'Crime|Thriller',
      "Animation|Children's|Musical|Romance", 'Action|Drama|
Thriller',
      "Children's|Comedy", 'Drama|Mystery',
      'Action|Comedy|Crime|Horror|Thriller', 'Drama|Musical',
      'Sci-Fi|Thriller', 'Crime|Drama|Romance', 'Adventure|Drama',
      'Action|Thriller', "Adventure|Children's|Comedy|Musical",
      'Action|Drama|War', 'Action|Adventure|Crime', 'Crime',
      'Drama|Mystery|Romance', 'Action|Drama', 'Drama|Romance|War',
      'Horror', 'Action|Adventure|Comedy|Crime', 'Comedy|War',
      'Action|Adventure|Mystery|Sci-Fi', 'Drama|Thriller|War',
      'Action|Romance|Thriller', 'Crime|Film-Noir|Mystery|Thriller',
      'Action|Adventure|Drama|Romance', 'Action|Sci-Fi|Thriller',
      'Action|Adventure|Sci-Fi', 'Horror|Sci-Fi', 'Action|Crime|Sci-
Fi',
      'Western', "Animation|Children's|Comedy|Romance",
      "Children's|Drama", 'Crime|Drama',
      'Drama|Fantasy|Romance|Thriller', 'Drama|Horror', 'Comedy|Sci-
Fi',
      'Mystery|Thriller', "Adventure|Children's|Comedy|Fantasy|
Romance",
      'Drama|Romance|War|Western', 'Action|Crime',
      'Action|Adventure|Western', 'Horror|Thriller',
      "Children's|Comedy|Fantasy", 'Film-Noir|Thriller',
      'Action|Comedy|Musical|Sci-Fi', 'Comedy|Horror', "Children's",
      'Drama|Mystery|Thriller', 'Comedy|Romance|War', 'Action|
Comedy',
      "Adventure|Children's|Romance", "Animation|Children's|Musical",
      'Comedy|Crime|Fantasy', 'Action|Comedy|Western', 'Action|Sci-
Fi',
      'Action|Adventure|Comedy|Romance', 'Comedy|Crime|Drama',
      'Comedy|Thriller', 'Horror|Sci-Fi|Thriller',
      'Mystery|Romance|Thriller', "Adventure|Children's|Drama",
      'Action|Adventure|Crime|Thriller', 'Action|Comedy|War',
      'Comedy|Western', 'Comedy|Mystery', "Action|Children's",
      'Comedy|Mystery|Romance', 'Comedy|Drama|War',
      'Action|Drama|Mystery', 'Comedy|Crime|Horror', 'Film-Noir|Sci-
Fi',
      'Comedy|Romance|Thriller', "Action|Adventure|Children's|Sci-
Fi",
      "Children's|Comedy|Musical", 'Action|Adventure|Comedy',

```

'Action|Crime|Romance',
 "Action|Adventure|Animation|Children's|Fantasy",
 "Animation|Children's|Comedy|Musical", 'Adventure|Drama|
 Western',
 'Action|Adventure|Crime|Drama',
 'Action|Adventure|Animation|Horror|Sci-Fi', 'War', 'Mystery',
 'Action|Adventure|Fantasy',
 "Adventure|Animation|Children's|Comedy|Fantasy", 'Sci-Fi',
 'Action|Adventure|Comedy|War', 'Crime|Film-Noir|Thriller',
 'Action|Adventure|Romance|Thriller', 'Animation|Sci-Fi',
 'Animation|Comedy|Thriller', 'Film-Noir', 'Adventure',
 'Comedy|Crime', 'Action|Sci-Fi|War',
 'Comedy|Fantasy|Romance|Sci-Fi', 'Fantasy',
 'Action|Mystery|Thriller', 'Comedy|Musical',
 'Action|Adventure|Sci-Fi|Thriller', 'Crime|Drama|Romance|
 Thriller',
 "Children's|Drama|Fantasy", 'Adventure|War', 'Musical|Romance',
 'Comedy|Musical|Romance', 'Comedy|Mystery|Romance|Thriller',
 'Film-Noir|Mystery', 'Musical',
 "Adventure|Children's|Drama|Musical", 'Romance|Thriller',
 'Film-Noir|Romance|Thriller', 'Crime|Film-Noir|Mystery',
 'Adventure|Comedy', 'Action|Adventure|Romance|War', 'Romance|
 War',
 'Action|Drama|Western', "Children's|Comedy|Western",
 "Adventure|Children's|Comedy", "Children's|Comedy|Mystery",
 "Adventure|Children's|Fantasy|Sci-Fi",
 "Adventure|Animation|Children's|Musical",
 "Adventure|Children's|Musical", 'Documentary|Drama',
 'Crime|Film-Noir', "Adventure|Children's|Comedy|Fantasy",
 "Children's|Drama|Fantasy|Sci-Fi", 'Action|Romance',
 'Adventure|Western', 'Comedy|Fantasy', 'Animation|Comedy',
 'Crime|Drama|Film-Noir', 'Action|Sci-Fi|Thriller|War',
 'Action|Western', 'Action|Horror|Sci-Fi|Thriller',
 'Action|Adventure|Comedy|Horror|Sci-Fi', 'Action|Comedy|
 Musical',
 'Mystery|Sci-Fi', 'Film-Noir|Mystery|Thriller',
 'Adventure|Comedy|Drama', 'Action|Adventure|Comedy|Horror',
 'Action|Drama|Mystery|Romance|Thriller', 'Comedy|Mystery|
 Thriller',
 'Adventure|Animation|Sci-Fi|Thriller', 'Action|Drama|Romance',
 'Action|Adventure|Drama', 'Comedy|Drama|Musical',
 'Documentary|War', 'Drama|Musical|War', 'Action|Horror',
 'Horror|Romance', 'Action|Comedy|Sci-Fi|War', 'Crime|Drama|Sci-
 Fi',
 'Action|Romance|War', 'Action|Comedy|Crime|Drama',
 'Action|Drama|Thriller|War', "Action|Adventure|Children's|
 Fantasy",
 "Adventure|Animation|Children's|Comedy|Musical",
 'Crime|Drama|Mystery', 'Action|Adventure|Comedy|Sci-Fi',
 "Children's|Fantasy", 'Action|Mystery|Sci-Fi|Thriller',

'Action|Mystery|Romance|Thriller', 'Adventure|Thriller',
 'Action|Thriller|War', 'Action|Crime|Mystery',
 'Horror|Mystery|Thriller', 'Crime|Horror|Mystery|Thriller',
 'Comedy|Drama|Thriller', 'Drama|Sci-Fi|Thriller',
 'Drama|Romance|Thriller', 'Action|Adventure|Sci-Fi|War',
 'Comedy|Crime|Drama|Mystery', 'Comedy|Crime|Mystery|Thriller',
 'Film-Noir|Sci-Fi|Thriller', 'Action|Horror|Sci-Fi',
 'Adventure|Sci-Fi|Thriller', 'Crime|Drama|Mystery|Thriller',
 'Comedy|Documentary', 'Documentary|Musical',
 'Action|Drama|Sci-Fi|Thriller',
 "Adventure|Animation|Children's|Fantasy",
 'Adventure|Comedy|Romance', 'Action|Comedy|Crime',
 "Animation|Children's|Fantasy|War", 'Action|Crime|Drama|
 Thriller',
 'Comedy|Sci-Fi|Western', "Children's|Fantasy|Musical",
 'Fantasy|Sci-Fi', "Children's|Comedy|Sci-Fi",
 "Action|Adventure|Children's|Comedy",
 "Adventure|Children's|Drama|Romance",
 "Adventure|Children's|Sci-Fi",
 "Adventure|Children's|Comedy|Fantasy|Sci-Fi",
 "Animation|Children's|Comedy|Musical|Romance",
 "Children's|Musical", 'Drama|Fantasy',
 "Animation|Children's|Fantasy|Musical", 'Adventure|Comedy|
 Musical',
 "Children's|Sci-Fi", "Children's|Horror", 'Comedy|Fantasy|
 Romance',
 'Action|Adventure|Fantasy|Sci-Fi', 'Comedy|Crime|Thriller',
 "Adventure|Animation|Children's|Sci-Fi",
 'Action|Crime|Mystery|Thriller', 'Adventure|Musical',
 "Animation|Children's|Drama|Fantasy", "Children's|Fantasy|Sci-
 Fi",
 'Adventure|Fantasy|Romance', 'Action|Adventure|Horror',
 'Drama|Film-Noir|Thriller', 'Animation', 'Action|Comedy|
 Fantasy',
 'Sci-Fi|Thriller|War', 'Action|Adventure|Sci-Fi|Thriller|War',
 'Action|Adventure|Drama|Thriller', 'Miami Beach (1988)',
 'Crime|Horror|Thriller', 'Animation|Musical', 'Action|War',
 'Action|Adventure|Mystery', 'Drama|Western',
 'Action|Comedy|Romance|Thriller', 'Comedy|Horror|Thriller',
 'Drama|Horror|Thriller', 'Action|Sci-Fi|Thriller|Western',
 'Drama|Romance|Sci-Fi', 'Action|Adventure|Horror|Thriller',
 'Comedy|Film-Noir|Thriller', 'Comedy|Horror|Musical|Sci-Fi',
 'Comedy|Romance|Sci-Fi', 'Action|Comedy|Sci-Fi|Thriller',
 'Action|Sci-Fi|Western', 'Comedy|Horror|Musical', 'Crime|
 Mystery',
 'Animation|Mystery', 'Action|Horror|Thriller',
 'Action|Drama|Fantasy|Romance', 'Horror|Mystery',
 "Adventure|Animation|Children's", 'Musical|Romance|War',
 'Adventure|Drama|Romance', 'Adventure|Fantasy|Sci-Fi',
 'Adventure|Animation|Film-Noir', 'Action|Adventure|Animation',

```

        'Comedy|Drama|Western', 'Adventure|Comedy|Sci-Fi',
        'Drama|Romance|Western', 'Comedy|Drama|Sci-Fi',
        'Action|Drama|Romance|Thriller', 'Adventure|Romance|Sci-Fi',
        'Film-Noir|Horror', 'Crime|Drama|Film-Noir|Thriller',
        'Action|Adventure|War', 'Romance|Western',
        "Action|Children's|Fantasy", 'Adventure|Drama|Thriller',
        'Adventure|Fantasy', 'Musical|War', 'Adventure|Musical|
Romance',
        'Action|Romance|Sci-Fi', 'Drama|Film-Noir', 'Comedy|Horror|Sci-
Fi',
        'Adventure|Drama|Romance|Sci-Fi', 'Adventure|Animation|Sci-Fi',
        'Adventure|Crime|Sci-Fi|Thriller'], dtype=object)

```

```

df8=pd.DataFrame(df1["Genres"].unique())
df8

```

```

      0
0      Animation|Children's|Comedy
1      Adventure|Children's|Fantasy
2              Comedy|Romance
3              Comedy|Drama
4              Comedy
..
290             Drama|Film-Noir
291             Comedy|Horror|Sci-Fi
292      Adventure|Drama|Romance|Sci-Fi
293             Adventure|Animation|Sci-Fi
294      Adventure|Crime|Sci-Fi|Thriller

```

```

[295 rows x 1 columns]

```

```

df9=df8.T
df9

```

```

      0      1
2      \
0      Animation|Children's|Comedy      Adventure|Children's|Fantasy      Comedy|
Romance

      3      4      5      6
7      \
0      Comedy|Drama      Comedy      Action|Crime|Thriller      Adventure|Children's
Action

      8      9      ...      \
0      Action|Adventure|Thriller      Comedy|Drama|Romance      ...

      285      286      287      \
0      Adventure|Drama|Thriller      Adventure|Fantasy      Musical|War

      288      289

```

```
290 \
0 Adventure|Musical|Romance Action|Romance|Sci-Fi Drama|Film-Noir
```

```
291
0 Comedy|Horror|Sci-Fi Adventure|Drama|Romance|Sci-Fi 292 \
```

```
293
0 Adventure|Animation|Sci-Fi Adventure|Crime|Sci-Fi|Thriller 294
```

```
[1 rows x 295 columns]
```

```
headers=df9.iloc[0]
df9=pd.DataFrame(df9.values[1:], columns=headers)
df9
```

```
Empty DataFrame
```

```
Columns: [Animation|Children's|Comedy, Adventure|Children's|Fantasy,
Comedy|Romance, Comedy|Drama, Comedy, Action|Crime|Thriller,
Adventure|Children's, Action, Action|Adventure|Thriller, Comedy|Drama|
Romance, nan, Animation|Children's, Drama, Action|Adventure|Romance,
Drama|Thriller, Drama|Romance, Thriller, Action|Comedy|Drama, Crime|
Drama|Thriller, Drama|Sci-Fi, Romance, Adventure|Sci-Fi, Adventure|
Romance, Children's|Comedy|Drama, Documentary, Drama|War, Action|
Crime|Drama, Action|Adventure, Crime|Thriller, Animation|Children's|
Musical|Romance, Action|Drama|Thriller, Children's|Comedy, Drama|
Mystery, Action|Comedy|Crime|Horror|Thriller, Drama|Musical, Sci-Fi|
Thriller, Crime|Drama|Romance, Adventure|Drama, Action|Thriller,
Adventure|Children's|Comedy|Musical, Action|Drama|War, Action|
Adventure|Crime, Crime, Drama|Mystery|Romance, Action|Drama, Drama|
Romance|War, Horror, Action|Adventure|Comedy|Crime, Comedy|War,
Action|Adventure|Mystery|Sci-Fi, Drama|Thriller|War, Action|Romance|
Thriller, Crime|Film-Noir|Mystery|Thriller, Action|Adventure|Drama|
Romance, Action|Sci-Fi|Thriller, Action|Adventure|Sci-Fi, Horror|Sci-
Fi, Action|Crime|Sci-Fi, Western, Animation|Children's|Comedy|Romance,
Children's|Drama, Crime|Drama, Drama|Fantasy|Romance|Thriller, Drama|
Horror, Comedy|Sci-Fi, Mystery|Thriller, Adventure|Children's|Comedy|
Fantasy|Romance, Drama|Romance|War|Western, Action|Crime, Action|
Adventure|Western, Horror|Thriller, Children's|Comedy|Fantasy, Film-
Noir|Thriller, Action|Comedy|Musical|Sci-Fi, Comedy|Horror,
Children's, Drama|Mystery|Thriller, Comedy|Romance|War, Action|Comedy,
Adventure|Children's|Romance, Animation|Children's|Musical, Comedy|
Crime|Fantasy, Action|Comedy|Western, Action|Sci-Fi, Action|Adventure|
Comedy|Romance, Comedy|Crime|Drama, Comedy|Thriller, Horror|Sci-Fi|
Thriller, Mystery|Romance|Thriller, Adventure|Children's|Drama,
Action|Adventure|Crime|Thriller, Action|Comedy|War, Comedy|Western,
Comedy|Mystery, Action|Children's, Comedy|Mystery|Romance, Comedy|
Drama|War, Action|Drama|Mystery, Comedy|Crime|Horror, Film-Noir|Sci-
Fi, ...]
Index: []
```

[0 rows x 295 columns]

```
df10= pd.concat([df1,df9],axis=1,ignore_index =False)
df10
```

	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)
...
3878	3948	Meet the Parents (2000)
3879	3949	Requiem for a Dream (2000)
3880	3950	Tigerland (2000)
3881	3951	Two Family House (2000)
3882	3952	Contender, The (2000)

	Genres Animation Children's Comedy \
0	Animation Children's Comedy NaN
1	Adventure Children's Fantasy NaN
2	Comedy Romance NaN
3	Comedy Drama NaN
4	Comedy NaN
...	...
3878	Comedy NaN
3879	Drama NaN
3880	Drama NaN
3881	Drama NaN
3882	Drama Thriller NaN

	Adventure Children's Fantasy	Comedy Romance	Comedy Drama	
Comedy \				
0	NaN	NaN	NaN	NaN
1	NaN	NaN	NaN	NaN
2	NaN	NaN	NaN	NaN
3	NaN	NaN	NaN	NaN
4	NaN	NaN	NaN	NaN
...
3878	NaN	NaN	NaN	NaN
3879	NaN	NaN	NaN	NaN

3880		NaN	NaN	NaN	NaN
3881		NaN	NaN	NaN	NaN
3882		NaN	NaN	NaN	NaN

	Action Crime Thriller	Adventure Children's	...	Adventure Drama
Thriller \				

0		NaN	NaN	...
NaN				
1		NaN	NaN	...
NaN				
2		NaN	NaN	...
NaN				
3		NaN	NaN	...
NaN				
4		NaN	NaN	...
NaN				
...	
...				
3878		NaN	NaN	...
NaN				
3879		NaN	NaN	...
NaN				
3880		NaN	NaN	...
NaN				
3881		NaN	NaN	...
NaN				
3882		NaN	NaN	...
NaN				

	Adventure Fantasy	Musical War	Adventure Musical Romance	\
0	NaN	NaN	NaN	
1	NaN	NaN	NaN	
2	NaN	NaN	NaN	
3	NaN	NaN	NaN	
4	NaN	NaN	NaN	
...	
3878	NaN	NaN	NaN	
3879	NaN	NaN	NaN	
3880	NaN	NaN	NaN	
3881	NaN	NaN	NaN	
3882	NaN	NaN	NaN	

	Action Romance Sci-Fi	Drama Film-Noir	Comedy Horror Sci-Fi	\
0	NaN	NaN	NaN	
1	NaN	NaN	NaN	

2	NaN	NaN	NaN
3	NaN	NaN	NaN
4	NaN	NaN	NaN
...
3878	NaN	NaN	NaN
3879	NaN	NaN	NaN
3880	NaN	NaN	NaN
3881	NaN	NaN	NaN
3882	NaN	NaN	NaN

	Adventure Drama Romance Sci-Fi	Adventure Animation Sci-Fi	\
0	NaN	NaN	
1	NaN	NaN	
2	NaN	NaN	
3	NaN	NaN	
4	NaN	NaN	
...
3878	NaN	NaN	
3879	NaN	NaN	
3880	NaN	NaN	
3881	NaN	NaN	
3882	NaN	NaN	

	Adventure Crime Sci-Fi Thriller
0	NaN
1	NaN
2	NaN
3	NaN
4	NaN
...	...
3878	NaN
3879	NaN
3880	NaN
3881	NaN
3882	NaN

[3883 rows x 298 columns]

```
df10.drop(["Genres"],axis=1,inplace=True)
df10
```

	MovieID	Title	Animation
	Children's Comedy	\	
0	1	Toy Story (1995)	
NaN			
1	2	Jumanji (1995)	
NaN			
2	3	Grumpier Old Men (1995)	
NaN			
3	4	Waiting to Exhale (1995)	

NaN		
4	5	Father of the Bride Part II (1995)
NaN		
...
...		
3878	3948	Meet the Parents (2000)
NaN		
3879	3949	Requiem for a Dream (2000)
NaN		
3880	3950	Tigerland (2000)
NaN		
3881	3951	Two Family House (2000)
NaN		
3882	3952	Contender, The (2000)
NaN		

	Adventure	Children's	Fantasy	Comedy	Romance	Comedy	Drama
Comedy \							
0		NaN		NaN		NaN	NaN
1		NaN		NaN		NaN	NaN
2		NaN		NaN		NaN	NaN
3		NaN		NaN		NaN	NaN
4		NaN		NaN		NaN	NaN
...	
3878		NaN		NaN		NaN	NaN
3879		NaN		NaN		NaN	NaN
3880		NaN		NaN		NaN	NaN
3881		NaN		NaN		NaN	NaN
3882		NaN		NaN		NaN	NaN

	Action	Crime	Thriller	Adventure	Children's	Action	...	\
0				NaN		NaN	NaN	...
1				NaN		NaN	NaN	...
2				NaN		NaN	NaN	...
3				NaN		NaN	NaN	...
4				NaN		NaN	NaN	...
...			
3878				NaN		NaN	NaN	...

3879	NaN	NaN	NaN	...
3880	NaN	NaN	NaN	...
3881	NaN	NaN	NaN	...
3882	NaN	NaN	NaN	...

	Adventure Drama Thriller	Adventure Fantasy	Musical War	\
0	NaN	NaN	NaN	
1	NaN	NaN	NaN	
2	NaN	NaN	NaN	
3	NaN	NaN	NaN	
4	NaN	NaN	NaN	
...	
3878	NaN	NaN	NaN	
3879	NaN	NaN	NaN	
3880	NaN	NaN	NaN	
3881	NaN	NaN	NaN	
3882	NaN	NaN	NaN	

	Adventure Musical Romance	Action Romance Sci-Fi	Drama Film-Noir	\
0	NaN	NaN	NaN	
1	NaN	NaN	NaN	
2	NaN	NaN	NaN	
3	NaN	NaN	NaN	
4	NaN	NaN	NaN	
...	
3878	NaN	NaN	NaN	
3879	NaN	NaN	NaN	
3880	NaN	NaN	NaN	
3881	NaN	NaN	NaN	
3882	NaN	NaN	NaN	

	Comedy Horror Sci-Fi	Adventure Drama Romance Sci-Fi	\
0	NaN	NaN	
1	NaN	NaN	
2	NaN	NaN	
3	NaN	NaN	
4	NaN	NaN	

...
3878	NaN	NaN
3879	NaN	NaN
3880	NaN	NaN
3881	NaN	NaN
3882	NaN	NaN

	Adventure Animation Sci-Fi	Adventure Crime Sci-Fi Thriller
0	NaN	NaN
1	NaN	NaN
2	NaN	NaN
3	NaN	NaN
4	NaN	NaN
...
3878	NaN	NaN
3879	NaN	NaN
3880	NaN	NaN
3881	NaN	NaN
3882	NaN	NaN

[3883 rows x 297 columns]

```
df11=pd.get_dummies(df1.Genres)
df11
```

	Miami Beach (1988)	Action	Action Adventure	\
0	0	0	0	
1	0	0	0	
2	0	0	0	
3	0	0	0	
4	0	0	0	
...	
3878	0	0	0	
3879	0	0	0	
3880	0	0	0	
3881	0	0	0	
3882	0	0	0	

	Action Adventure Animation	\
0	0	
1	0	
2	0	
3	0	
4	0	
...	...	
3878	0	
3879	0	
3880	0	
3881	0	
3882	0	

	Action Adventure Animation Children's Fantasy \
0	0
1	0
2	0
3	0
4	0
...	...
3878	0
3879	0
3880	0
3881	0
3882	0

	Action Adventure Animation Horror Sci-Fi \
0	0
1	0
2	0
3	0
4	0
...	...
3878	0
3879	0
3880	0
3881	0
3882	0

	Action Adventure Children's Comedy	Action Adventure Children's Fantasy \
0	0	
0		
1	0	
0		
2	0	
0		
3	0	
0		
4	0	
0		
...	...	
...		
3878	0	
0		
3879	0	
0		
3880	0	
0		
3881	0	
0		
3882	0	

0

Action Adventure Children's Sci-Fi				Action Adventure Comedy		...
\						
0			0		0	...
1			0		0	...
2			0		0	...
3			0		0	...
4			0		0	...
...		
3878			0		0	...
3879			0		0	...
3880			0		0	...
3881			0		0	...
3882			0		0	...

Romance		Romance Thriller		Romance War		Romance Western		Sci-Fi
\								
0	0		0		0		0	0
1	0		0		0		0	0
2	0		0		0		0	0
3	0		0		0		0	0
4	0		0		0		0	0
...
3878	0		0		0		0	0
3879	0		0		0		0	0
3880	0		0		0		0	0
3881	0		0		0		0	0

```
3882      0      0      0      0      0
```

```

Sci-Fi|Thriller  Sci-Fi|Thriller|War  Thriller  War  Western
0      0      0      0      0      0
1      0      0      0      0      0
2      0      0      0      0      0
3      0      0      0      0      0
4      0      0      0      0      0
...      ...      ...      ...      ...
3878      0      0      0      0
3879      0      0      0      0
3880      0      0      0      0
3881      0      0      0      0
3882      0      0      0      0

```

```
[3883 rows x 294 columns]
```

```
df12=pd.concat([df1,df11],axis=1)
df12
```

```

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)
...      ...      ...
3878      3948      Meet the Parents (2000)
3879      3949      Requiem for a Dream (2000)
3880      3950      Tigerland (2000)
3881      3951      Two Family House (2000)
3882      3952      Contender, The (2000)

```

```

Genres  Miami Beach (1988)  Action \
0      Animation|Children's|Comedy      0      0
1      Adventure|Children's|Fantasy      0      0
2      Comedy|Romance      0      0
3      Comedy|Drama      0      0
4      Comedy      0      0
...      ...      ...
3878      Comedy      0      0
3879      Drama      0      0
3880      Drama      0      0
3881      Drama      0      0
3882      Drama|Thriller      0      0

```

```

Action|Adventure  Action|Adventure|Animation \
0      0      0

```


1	0	0
2	0	0
3	0	0
4	0	0
...
3878	0	0
3879	0	0
3880	0	0
3881	0	0
3882	0	0

	Action Adventure Animation Children's Fantasy \	
0		0
1		0
2		0
3		0
4		0
...		...
3878		0
3879		0
3880		0
3881		0
3882		0

	Action Adventure Animation Horror Sci-Fi \	
0		0
1		0
2		0
3		0
4		0
...		...
3878		0
3879		0
3880		0
3881		0
3882		0

	Action Adventure Children's Comedy ...	Romance	Romance
Thriller \			
0	0 ...	0	
0			
1	0 ...	0	
0			
2	0 ...	0	
0			
3	0 ...	0	
0			
4	0 ...	0	
0			
...

```

..
3878          0 ...          0
0
3879          0 ...          0
0
3880          0 ...          0
0
3881          0 ...          0
0
3882          0 ...          0
0

```

```

      Romance|War  Romance|Western  Sci-Fi  Sci-Fi|Thriller  \
0              0              0      0              0
1              0              0      0              0
2              0              0      0              0
3              0              0      0              0
4              0              0      0              0
...
3878          ...          ...      ...          ...
3879          0              0      0              0
3880          0              0      0              0
3881          0              0      0              0
3882          0              0      0              0

```

```

      Sci-Fi|Thriller|War  Thriller  War  Western
0              0              0      0      0
1              0              0      0      0
2              0              0      0      0
3              0              0      0      0
4              0              0      0      0
...
3878          ...          ...      ...      ...
3879          0              0      0      0
3880          0              0      0      0
3881          0              0      0      0
3882          0              0      0      0

```

[3883 rows x 297 columns]

```

df12.drop(["Genres"],axis=1,inplace=True)
df12

```

```

      MovieID          Title  Miami Beach (1988)
\
0          1      Toy Story (1995)              0
1          2      Jumanji (1995)              0
2          3  Grumpier Old Men (1995)              0

```

3	4	Waiting to Exhale (1995)	0
4	5	Father of the Bride Part II (1995)	0
...
3878	3948	Meet the Parents (2000)	0
3879	3949	Requiem for a Dream (2000)	0
3880	3950	Tigerland (2000)	0
3881	3951	Two Family House (2000)	0
3882	3952	Contender, The (2000)	0

	Action	Action Adventure	Action Adventure Animation	\
0	0	0	0	
1	0	0	0	
2	0	0	0	
3	0	0	0	
4	0	0	0	
...	
3878	0	0	0	
3879	0	0	0	
3880	0	0	0	
3881	0	0	0	
3882	0	0	0	

	Action Adventure Animation Children's Fantasy	\
0	0	
1	0	
2	0	
3	0	
4	0	
...	...	
3878	0	
3879	0	
3880	0	
3881	0	
3882	0	

	Action Adventure Animation Horror Sci-Fi	\
0	0	
1	0	
2	0	
3	0	

4	0
...	...
3878	0
3879	0
3880	0
3881	0
3882	0

	Action Adventure Children's Comedy	Action Adventure Children's
Fantasy \		
0	0	
0		
1	0	
0		
2	0	
0		
3	0	
0		
4	0	
0		
...	...	
...		
3878	0	
0		
3879	0	
0		
3880	0	
0		
3881	0	
0		
3882	0	
0		

	Romance	Romance Thriller	Romance War	Romance Western
Sci-Fi \				
0	0	0	0	0
0				
1	0	0	0	0
0				
2	0	0	0	0
0				
3	0	0	0	0
0				
4	0	0	0	0
0				
...
...				
3878	0	0	0	0
0				
3879	0	0	0	0

```

0
3880 ... 0 0 0 0
0
3881 ... 0 0 0 0
0
3882 ... 0 0 0 0
0

```

```

Sci-Fi|Thriller Sci-Fi|Thriller|War Thriller War Western
0 0 0 0 0 0
1 0 0 0 0 0
2 0 0 0 0 0
3 0 0 0 0 0
4 0 0 0 0 0
... ... ... ...
3878 0 0 0 0 0
3879 0 0 0 0 0
3880 0 0 0 0 0
3881 0 0 0 0 0
3882 0 0 0 0 0

```

[3883 rows x 296 columns]

```

df13= pd.concat([df2,df12],axis=1)
df13

```

```

UserID MovieID Rating Timestamp MovieID \
0 1 1193 5 978300760 1.0
1 1 661 3 978302109 2.0
2 1 914 3 978301968 3.0
3 1 3408 4 978300275 4.0
4 1 2355 5 978824291 5.0
... ... ... ...
1000204 6040 1091 1 956716541 NaN
1000205 6040 1094 5 956704887 NaN
1000206 6040 562 5 956704746 NaN
1000207 6040 1096 4 956715648 NaN
1000208 6040 1097 4 956715569 NaN

```

```

Title Miami Beach (1988)
Action \
0 Toy Story (1995) 0.0
0.0
1 Jumanji (1995) 0.0
0.0
2 Grumpier Old Men (1995) 0.0
0.0
3 Waiting to Exhale (1995) 0.0
0.0
4 Father of the Bride Part II (1995) 0.0

```

0.0			
...	
..			
1000204		NaN	NaN
NaN			
1000205		NaN	NaN
NaN			
1000206		NaN	NaN
NaN			
1000207		NaN	NaN
NaN			
1000208		NaN	NaN
NaN			

	Action Adventure	Action Adventure Animation	...	Romance	\
0	0.0		0.0	...	0.0
1	0.0		0.0	...	0.0
2	0.0		0.0	...	0.0
3	0.0		0.0	...	0.0
4	0.0		0.0	...	0.0
...
1000204	NaN		NaN	...	NaN
1000205	NaN		NaN	...	NaN
1000206	NaN		NaN	...	NaN
1000207	NaN		NaN	...	NaN
1000208	NaN		NaN	...	NaN

	Romance Thriller	Romance War	Romance Western	Sci-Fi	\
0	0.0	0.0	0.0	0.0	
1	0.0	0.0	0.0	0.0	
2	0.0	0.0	0.0	0.0	
3	0.0	0.0	0.0	0.0	
4	0.0	0.0	0.0	0.0	
...	
1000204	NaN	NaN	NaN	NaN	
1000205	NaN	NaN	NaN	NaN	
1000206	NaN	NaN	NaN	NaN	
1000207	NaN	NaN	NaN	NaN	
1000208	NaN	NaN	NaN	NaN	

	Sci-Fi Thriller	Sci-Fi Thriller War	Thriller	War	Western
0	0.0		0.0	0.0	0.0
1	0.0		0.0	0.0	0.0
2	0.0		0.0	0.0	0.0
3	0.0		0.0	0.0	0.0

4	0.0	0.0	0.0	0.0	0.0
...
1000204	NaN	NaN	NaN	NaN	NaN
1000205	NaN	NaN	NaN	NaN	NaN
1000206	NaN	NaN	NaN	NaN	NaN
1000207	NaN	NaN	NaN	NaN	NaN
1000208	NaN	NaN	NaN	NaN	NaN

[1000209 rows x 300 columns]

```
df13.drop(["UserID", "MovieID", "Timestamp"], axis=1, inplace=True)
df13
```

	Rating	Title	Miami Beach
(1988) \			
0	5	Toy Story (1995)	
0.0			
1	3	Jumanji (1995)	
0.0			
2	3	Grumpier Old Men (1995)	
0.0			
3	4	Waiting to Exhale (1995)	
0.0			
4	5	Father of the Bride Part II (1995)	
0.0			
...
..			
1000204	1	NaN	
NaN			
1000205	5	NaN	
NaN			
1000206	5	NaN	
NaN			
1000207	4	NaN	
NaN			
1000208	4	NaN	
NaN			

	Action	Action Adventure	Action Adventure Animation	\
0	0.0	0.0	0.0	
1	0.0	0.0	0.0	
2	0.0	0.0	0.0	

3	0.0	0.0	0.0
4	0.0	0.0	0.0
...
1000204	NaN	NaN	NaN
1000205	NaN	NaN	NaN
1000206	NaN	NaN	NaN
1000207	NaN	NaN	NaN
1000208	NaN	NaN	NaN

	Action Adventure Animation Children's Fantasy	\
0		0.0
1		0.0
2		0.0
3		0.0
4		0.0
...		...
1000204		NaN
1000205		NaN
1000206		NaN
1000207		NaN
1000208		NaN

	Action Adventure Animation Horror Sci-Fi	\
0		0.0
1		0.0
2		0.0
3		0.0
4		0.0
...		...
1000204		NaN
1000205		NaN
1000206		NaN
1000207		NaN
1000208		NaN

	Action Adventure Children's Comedy	\
0		0.0
1		0.0
2		0.0
3		0.0
4		0.0
...		...
1000204		NaN
1000205		NaN
1000206		NaN
1000207		NaN
1000208		NaN

	Action Adventure Children's Fantasy	...	Romance	Romance
Thriller	\			

0	0.0	...	0.0
1	0.0	...	0.0
2	0.0	...	0.0
3	0.0	...	0.0
4	0.0	...	0.0
...
1000204	NaN	...	NaN
1000205	NaN	...	NaN
1000206	NaN	...	NaN
1000207	NaN	...	NaN
1000208	NaN	...	NaN

	Romance War	Romance Western	Sci-Fi	Sci-Fi Thriller \
0	0.0	0.0	0.0	0.0
1	0.0	0.0	0.0	0.0
2	0.0	0.0	0.0	0.0
3	0.0	0.0	0.0	0.0
4	0.0	0.0	0.0	0.0
...
1000204	NaN	NaN	NaN	NaN
1000205	NaN	NaN	NaN	NaN
1000206	NaN	NaN	NaN	NaN
1000207	NaN	NaN	NaN	NaN
1000208	NaN	NaN	NaN	NaN

	Sci-Fi Thriller War	Thriller	War	Western
0	0.0	0.0	0.0	0.0
1	0.0	0.0	0.0	0.0
2	0.0	0.0	0.0	0.0
3	0.0	0.0	0.0	0.0
4	0.0	0.0	0.0	0.0
...
1000204	NaN	NaN	NaN	NaN
1000205	NaN	NaN	NaN	NaN
1000206	NaN	NaN	NaN	NaN
1000207	NaN	NaN	NaN	NaN
1000208	NaN	NaN	NaN	NaN

[1000209 rows x 296 columns]

```
from sklearn.linear_model import LinearRegression
lm=LinearRegression()
```

```
x= df13.drop('Rating',axis=1)
x
```

	Title	Miami Beach (1988)
Action \		
0	Toy Story (1995)	0.0
0.0		
1	Jumanji (1995)	0.0
0.0		
2	Grumpier Old Men (1995)	0.0
0.0		
3	Waiting to Exhale (1995)	0.0
0.0		
4	Father of the Bride Part II (1995)	0.0
0.0		
...
..		
1000204	NaN	NaN
NaN		
1000205	NaN	NaN
NaN		
1000206	NaN	NaN
NaN		
1000207	NaN	NaN
NaN		
1000208	NaN	NaN
NaN		

	Action Adventure	Action Adventure Animation \
0	0.0	0.0
1	0.0	0.0
2	0.0	0.0
3	0.0	0.0
4	0.0	0.0
...
1000204	NaN	NaN
1000205	NaN	NaN
1000206	NaN	NaN
1000207	NaN	NaN
1000208	NaN	NaN

	Action Adventure Animation Children's Fantasy \
0	0.0
1	0.0
2	0.0
3	0.0
4	0.0

...	...
1000204	NaN
1000205	NaN
1000206	NaN
1000207	NaN
1000208	NaN

	Action Adventure Animation Horror Sci-Fi	\
0		0.0
1		0.0
2		0.0
3		0.0
4		0.0

...	...
1000204	NaN
1000205	NaN
1000206	NaN
1000207	NaN
1000208	NaN

	Action Adventure Children's Comedy	\
0		0.0
1		0.0
2		0.0
3		0.0
4		0.0

...	...
1000204	NaN
1000205	NaN
1000206	NaN
1000207	NaN
1000208	NaN

	Action Adventure Children's Fantasy	\
0		0.0
1		0.0
2		0.0
3		0.0
4		0.0

...	...
1000204	NaN
1000205	NaN
1000206	NaN
1000207	NaN
1000208	NaN

	Action Adventure Children's Sci-Fi	...	Romance	Romance
Thriller	\			
0		0.0	...	0.0
0.0				

1	0.0	...	0.0
0.0			
2	0.0	...	0.0
0.0			
3	0.0	...	0.0
0.0			
4	0.0	...	0.0
0.0			
...
...			
1000204	NaN	...	NaN
NaN			
1000205	NaN	...	NaN
NaN			
1000206	NaN	...	NaN
NaN			
1000207	NaN	...	NaN
NaN			
1000208	NaN	...	NaN
NaN			

	Romance War	Romance Western	Sci-Fi	Sci-Fi Thriller	\
0	0.0	0.0	0.0	0.0	
1	0.0	0.0	0.0	0.0	
2	0.0	0.0	0.0	0.0	
3	0.0	0.0	0.0	0.0	
4	0.0	0.0	0.0	0.0	
...
1000204	NaN	NaN	NaN	NaN	NaN
1000205	NaN	NaN	NaN	NaN	NaN
1000206	NaN	NaN	NaN	NaN	NaN
1000207	NaN	NaN	NaN	NaN	NaN
1000208	NaN	NaN	NaN	NaN	NaN

	Sci-Fi Thriller War	Thriller	War	Western
0	0.0	0.0	0.0	0.0
1	0.0	0.0	0.0	0.0
2	0.0	0.0	0.0	0.0
3	0.0	0.0	0.0	0.0
4	0.0	0.0	0.0	0.0
...
1000204	NaN	NaN	NaN	NaN
1000205	NaN	NaN	NaN	NaN
1000206	NaN	NaN	NaN	NaN
1000207	NaN	NaN	NaN	NaN
1000208	NaN	NaN	NaN	NaN

[1000209 rows x 295 columns]

```
y = df13.Rating
y
0          5
1          3
2          3
3          4
4          5
..
1000204    1
1000205    5
1000206    5
1000207    4
1000208    4
Name: Rating, Length: 1000209, dtype: int64
```


