In [27]:
```
import pandas as pd
```

In [28]:
```
data=pd.read_csv("/home/placement/Downloads/movies.csv")
```

In [29]:
```
data.describe()
```

Out[29]:

	srno	year	rating	time
count	49590.000000	49590.000000	10814.000000	45836.000000
mean	24795.500000	2002.303428	3.451248	2628.445436
std	14315.544261	12.534555	0.495601	1604.646265
min	1.000000	1913.000000	1.400000	52.000000
25%	12398.250000	1999.000000	3.100000	1356.000000
50%	24795.500000	2007.000000	3.500000	2563.000000
75%	37192.750000	2010.000000	3.800000	2877.000000
max	49590.000000	2014.000000	4.500000	28813.000000

In [30]:
```
data.head()
```

Out[30]:

	srno	movie	year	rating	time
0	1	The Nightmare Before	1993	3.9	4568.0
1	2	The Mummy	1932	3.5	4388.0
2	3	Orphans of the Storm	1921	3.2	9062.0
3	4	The Object of Beauty	1991	2.8	6150.0
4	5	Night Tide	1963	2.8	5126.0

In [31]:
```
data.tail(100)
```

Out[31]:

	srno	movie	year	rating	time
49490	49491	Max Steel: Season 1: Secret Identity Crisis	2013	NaN	1323.0
49491	49492	Max Steel: Season 1: C.Y.T.R.O. Attacks!	2013	NaN	1323.0
49492	49493	Max Steel: Season 1: Hard Water	2013	NaN	1323.0
49493	49494	Max Steel: Season 1: The Thrill of the Hunt	2013	NaN	1323.0
49494	49495	Max Steel: Season 1: Extroyer Unleashed	2013	NaN	1323.0
...	...	...	...	...	...
49585	49586	Winter Wonderland	2013	2.8	1812.0
49586	49587	Top Gear: Series 19: Africa Special	2013	NaN	6822.0
49587	49588	Fireplace For Your Home: Crackling Fireplace w...	2010	NaN	3610.0
49588	49589	Kate Plus Ei8ht	2010	2.7	NaN
49589	49590	Kate Plus Ei8ht: Season 1	2010	2.7	NaN

100 rows × 5 columns

In [32]:
```
data.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 49590 entries, 0 to 49589
Data columns (total 5 columns):
 #   Column  Non-Null Count  Dtype  
---  ------  --------------  -----  
 0   srno    49590 non-null  int64  
 1   movie   49590 non-null  object 
 2   year    49590 non-null  int64  
 3   rating  10814 non-null  float64
 4   time    45836 non-null  float64
dtypes: float64(2), int64(2), object(1)
memory usage: 1.9+ MB
```

In [33]:
```
data.shape
```

Out[33]:
```
(49590, 5)
```

In [34]:
```
data.isna().sum()
```

Out[34]:
```
srno          0
movie         0
year          0
rating    38776
time       3754
dtype: int64
```

In [35]:
```
data1=data.loc[(data.year==2009)]
```

In [36]:
```
data1
```

Out[36]:

	srno	movie	year	rating	time
4990	4991	Loose Change 9 11: An American Coup	2009	3.8	5910.0
6563	6564	Chéri	2009	3.0	5548.0
6564	6565	The Messenger	2009	3.5	6778.0
6566	6567	Perrier's Bounty	2009	3.3	5268.0
6570	6571	Cook County	2009	3.5	5638.0
...	...	...	...	...	...
48844	48845	Gang Wars	2009	3.6	NaN
48852	48853	Monsters Inside Me	2009	3.8	NaN
48854	48855	Pit Bulls & Parolees	2009	4.3	NaN
49498	49499	Chanbara Beauty: The Movie - Vortex	2009	2.4	5314.0
49580	49581	Curious George: A Very Monkey Christmas	2009	3.8	3438.0

4451 rows × 5 columns

In [37]:
```
data2=data.loc[(data.time>5000)]
```

In [38]:
```
data2
```

Out[38]:

	srno	movie	year	rating	time
2	3	Orphans of the Storm	1921	3.2	9062.0
3	4	The Object of Beauty	1991	2.8	6150.0
4	5	Night Tide	1963	2.8	5126.0
5	6	One Magic Christmas	1985	3.8	5333.0
6	7	Muriel's Wedding	1994	3.5	6323.0
...	...	...	...	...	...
49564	49565	American Addict	2013	3.5	5377.0
49579	49580	Underground: The Julian Assange Story	2012	3.7	5665.0
49583	49584	Sunset Strip	2012	3.0	5770.0
49584	49585	Silver Bells	2013	3.5	5287.0
49586	49587	Top Gear: Series 19: Africa Special	2013	NaN	6822.0

5897 rows × 5 columns

In [39]:
```
datat=data.sort_values('time')
```

In [40]:
```
datat
```

Out[40]:

	srno	movie	year	rating	time
40150	40151	Trailer: Pain	2012	3.6	52.0
41081	41082	Trailer: Get to Work	2012	3.3	55.0
41082	41083	Trailer: Give and Take	2012	3.3	66.0
43166	43167	Trailer: Emperor	2013	3.1	67.0
43330	43331	Trailer: Blood Angel	2013	4.2	69.0
...	...	...	...	...	...
49556	49557	Shinobi Girl	2012	2.0	NaN
49561	49562	My Hope America with Billy Graham	2013	3.9	NaN
49565	49566	My Hope America with Billy Graham	2013	3.9	NaN
49588	49589	Kate Plus Ei8ht	2010	2.7	NaN
49589	49590	Kate Plus Ei8ht: Season 1	2010	2.7	NaN

49590 rows × 5 columns

In [41]:
```
datar=data.sort_values('rating')
```

In [42]:
```
datar
```

Out[42]:

	srno	movie	year	rating	time
40934	40935	Lagegi	2007	1.4	NaN
42115	42116	Sun Yaar Chill Maar	2007	1.4	NaN
40826	40827	Lagegi	2007	1.4	NaN
42160	42161	Sun Yaar Chill Maar	2007	1.4	NaN
41396	41397	Meri Toh Lag Gayi Naukri	2011	1.5	NaN
...	...	...	...	...	...
49563	49564	My Hope America with Billy Graham: Lose to Gain	2013	NaN	1400.0
49576	49577	Barbie: Life in the Dreamhouse: Barbie Life in...	2013	NaN	1390.0
49577	49578	Barbie: Life in the Dreamhouse: Barbie Life in...	2013	NaN	1458.0
49586	49587	Top Gear: Series 19: Africa Special	2013	NaN	6822.0
49587	49588	Fireplace For Your Home: Crackling Fireplace w...	2010	NaN	3610.0

49590 rows × 5 columns

In [43]:
```
data3=data.loc[(data.rating>=3)&(data.year>2000)&(data.year<=2010)]
```

In [44]:
```
data3
```

Out[44]:

	srno	movie	year	rating	time
438	439	Monkeybone	2001	3.1	5561.0
507	508	Impostor	2001	3.4	6143.0
514	515	Hannibal	2001	3.6	7881.0
523	524	Blow Dry	2001	3.3	5420.0
541	542	Along Came a Spider	2001	3.7	6184.0
...	...	...	...	...	...
49320	49321	Dave Gorman Stand-Up. Live.	2010	3.4	5090.0
49333	49334	Frank Skinner Stand-Up: Live from Birmingham's...	2008	3.0	2900.0
49334	49335	Signing Time: Collection 1	2007	3.8	NaN
49394	49395	A Liga	2010	3.8	NaN
49580	49581	Curious George: A Very Monkey Christmas	2009	3.8	3438.0

4339 rows × 5 columns

In [46]:
```
data.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 49590 entries, 0 to 49589
Data columns (total 5 columns):
 #   Column  Non-Null Count  Dtype  
---  ------  --------------  -----  
 0   srno    49590 non-null  int64  
 1   movie   49590 non-null  object 
 2   year    49590 non-null  int64  
 3   rating  10814 non-null  float64
 4   time    45836 non-null  float64
dtypes: float64(2), int64(2), object(1)
memory usage: 1.9+ MB
```

In [48]:
```
data4=data.groupby(['year']).count()
```

In [49]:
```
data4
```

Out[49]:

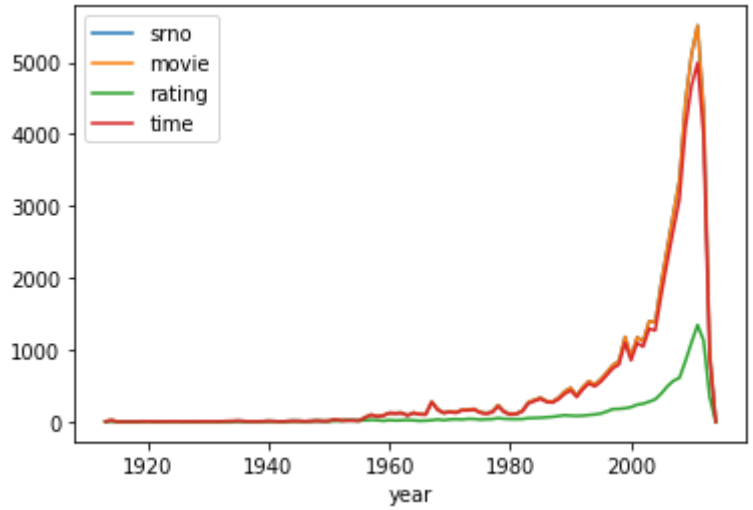
year	srno	movie	rating	time
1913	3	3	3	3
1914	20	20	5	18
1915	1	1	1	1
1916	1	1	1	1
1918	1	1	1	1
...	...	...	...	...
2010	5107	5107	1102	4671
2011	5511	5511	1346	4992
2012	4339	4339	1130	3978
2013	981	981	345	901
2014	1	1	1	1

101 rows × 4 columns

In [50]:
```
data4.to_csv('movies2.csv')
```

In [51]:
```
data4.plot()
```

Out[51]: <AxesSubplot:xlabel='year'>



In [ ]:
```

```