

```
In [2]: import numpy as np
import pandas as pd
import warnings
warnings.filterwarnings("ignore")
data=pd.read_csv("/home/placement/Downloads/movies.csv")
print(data)
```

	srno	movie	year	rating	\
0	1	The Nightmare Before	1993	3.9	
1	2	The Mummy	1932	3.5	
2	3	Orphans of the Storm	1921	3.2	
3	4	The Object of Beauty	1991	2.8	
4	5	Night Tide	1963	2.8	
...	...				
49585	49586	Winter Wonderland	2013	2.8	
49586	49587	Top Gear: Series 19: Africa Special	2013	NaN	
49587	49588	Fireplace For Your Home: Crackling Fireplace w...	2010	NaN	
49588	49589	Kate Plus Ei8ht	2010	2.7	
49589	49590	Kate Plus Ei8ht: Season 1	2010	2.7	

	time
0	4568.0
1	4388.0
2	9062.0
3	6150.0
4	5126.0
...	...
49585	1812.0
49586	6822.0
49587	3610.0
49588	NaN
49589	NaN

[49590 rows x 5 columns]

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

```
Out[4]: Index(['srno', 'movie', 'year', 'rating', 'time'], dtype='object')
```

```
In [5]: data.shape
```

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

```
In [6]: data.head()
```

```
Out[6]:
```

	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 [7]: data.tail()
```

```
Out[7]:
```

	srno	movie	year	rating	time
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

```
In [8]: data.describe()
```

```
Out[8]:
```

	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

## on single condition

```
In [13]: data1=data[data['time']>5000]
```

```
In [14]: data1
```

```
Out[14]:
```

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

In [19]: data2

Out[19]:

	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

## on multiple conditions

In [27]: data3=data.loc[(data.year==2000)&(data.time>5000)]

In [28]: data3

Out[28]:

	srno	movie	year	rating	time
<b>409</b>	410	Believe	2000	3.3	5767.0
<b>416</b>	417	The Prophecy 3: The Ascent	2000	3.4	5048.0
<b>430</b>	431	Scream 3	2000	3.2	7013.0
<b>432</b>	433	Holy Smoke	2000	3.0	6855.0
<b>437</b>	438	Requiem for a Dream	2000	3.9	6087.0
...	...	...	...	...	...
<b>32557</b>	32558	Shaded Places	2000	2.9	5350.0
<b>36229</b>	36230	The Three Stooges	2000	3.7	5256.0
<b>37333</b>	37334	Les Miserables: Pt. 2	2000	NaN	5170.0
<b>37336</b>	37337	Les Miserables: Pt. 1	2000	NaN	5194.0
<b>39493</b>	39494	The Prophet's Game	2000	3.2	6486.0

137 rows × 5 columns

In [31]: `data.tail(50)`

Out[31]:

	srno	movie	year	rating	time
49540	49541	Life With Boys: Season 1: This Time the Proble...	2011	NaN	1368.0
49541	49542	Life With Boys: Season 1: In the Principal's O...	2011	NaN	1368.0
49542	49543	El Fuente: 5994 MP	2013	3.5	471.0
49543	49544	Life With Boys: Season 1: Monkey Talk with Boys	2011	NaN	1368.0
49544	49545	El Fuente: 50 MP	2013	3.3	465.0
49545	49546	Bo Burnham: what.	2013	4.1	3614.0
49546	49547	Life With Boys: Season 1: A Perfect Life with ...	2011	NaN	1368.0
49547	49548	Life With Boys: Season 1: Wrestling with Boys	2011	NaN	1369.0
49548	49549	Life With Boys: Season 1	2011	4.1	NaN
49549	49550	El Fuente: 30 MP	2013	3.3	471.0
49550	49551	El Fuente: 2997 MP	2013	3.2	471.0
49551	49552	El Fuente: 25 MP	2013	3.3	465.0
49552	49553	El Fuente: 24 MP	2013	3.5	484.0
49553	49554	Max Steel	2013	4.1	NaN
49554	49555	Saving Santa	2013	3.8	5038.0
49555	49556	Lilyhammer: Season 1 (Recap)	2013	4.2	194.0
49556	49557	Shinobi Girl	2012	2.0	NaN
49557	49558	GLOW: The Story of the Gorgeous Ladies of Wres...	2012	3.7	4593.0
49558	49559	Mitt (Trailer)	2013	3.0	138.0
49559	49560	My Hope America with Billy Graham: The Cross	2013	NaN	1706.0
49560	49561	The Square (Trailer)	2014	3.6	154.0
49561	49562	My Hope America with Billy Graham	2013	3.9	NaN
49562	49563	My Hope America with Billy Graham: Defining Mo...	2013	NaN	1791.0
49563	49564	My Hope America with Billy Graham: Lose to Gain	2013	NaN	1400.0

	srno	movie	year	rating	time
49564	49565	American Addict	2013	3.5	5377.0
49565	49566	My Hope America with Billy Graham	2013	3.9	NaN
49566	49567	El Fuente: 2997 MP10	2013	2.7	470.0
49567	49568	El Fuente: 25 MP10	2013	2.9	464.0
49568	49569	El Fuente: 24 MP10	2013	2.8	484.0
49569	49570	El Fuente: 23976 MP10	2013	2.9	484.0
49570	49571	The Short Game (Trailer)	2013	4.1	156.0
49571	49572	El Fuente: 5994 MP10	2013	2.8	471.0
49572	49573	El Fuente: 50 MP10	2013	2.9	464.0
49573	49574	El Fuente: 30 MP10	2013	2.8	470.0
49574	49575	Greg Fitzsimmons: Life on Stage	2013	3.3	3671.0
49575	49576	Dave Foley: Relatively Well	2013	3.2	3446.0
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
49578	49579	Transformers Prime Beast Hunters: Predacons Ri...	2013	4.2	3950.0
49579	49580	Underground: The Julian Assange Story	2012	3.7	5665.0
49580	49581	Curious George: A Very Monkey Christmas	2009	3.8	3438.0
49581	49582	Mumfie's White Christmas	1996	2.4	1350.0
49582	49583	Lady Gaga &#38; The Muppets' Holiday Spectacular	2013	3.1	3496.0
49583	49584	Sunset Strip	2012	3.0	5770.0
49584	49585	Silver Bells	2013	3.5	5287.0
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



```
In [47]: data4=data.loc[(data.year>=2000)&(data.year<=2010)&(data.rating>4)]
```

```
In [48]: data4
```

```
Out[48]:
```

	srno	movie	year	rating	time
984	985	Paid in Full	2002	4.1	5883.0
1061	1062	The Pianist	2002	4.1	8945.0
1285	1286	Pirates of the Caribbean: The Curse of the Bla...	2003	4.1	8586.0
1305	1306	Ken Burns: Jazz	2001	4.1	NaN
1363	1364	The Life of Mammals	2002	4.2	NaN
...	...	...	...	...	...
47765	47766	Brew Masters: Season 1	2010	4.1	NaN
48212	48213	Cake Boss: Next Great Baker: Season 1	2010	4.1	NaN
48854	48855	Pit Bulls &#38; Parolees	2009	4.3	NaN
48874	48875	Brew Masters	2010	4.1	NaN
49025	49026	Cake Boss: Next Great Baker	2010	4.1	NaN

438 rows × 5 columns

## sorting the data

```
In [51]: data5=data.sort_values('time')
```

```
In [53]: data5.head(10)
```

```
Out[53]:
```

	srno	movie	year	rating	time
<b>40150</b>	40151	Trailer: Pain	2012	3.6	52.0
<b>41081</b>	41082	Trailer: Get to Work	2012	3.3	55.0
<b>41082</b>	41083	Trailer: Give and Take	2012	3.3	66.0
<b>43166</b>	43167	Trailer: Emperor	2013	3.1	67.0
<b>43330</b>	43331	Trailer: Blood Angel	2013	4.2	69.0
<b>40149</b>	40150	Trailer: Lift the Veil	2012	3.6	69.0
<b>40789</b>	40790	Trailer: Gray Area	2012	3.7	70.0
<b>40154</b>	40155	Trailer: Cleave	2012	3.5	71.0
<b>43168</b>	43169	Trailer: Masks	2013	4.2	73.0
<b>45745</b>	45746	Trailer: Strip Search	2013	3.6	73.0

```
In [61]: data6=data.sort_values('rating')
```

In [62]: data6

Out[62]:

	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

## find the highest rating using max()

In [4]: data['rating'].max()

Out[4]: 4.5

In [3]: `data.corr()`

Out[3]:

	srno	year	rating	time
srno	1.000000	0.401153	0.054288	-0.286048
year	0.401153	1.000000	0.156210	-0.058444
rating	0.054288	0.156210	1.000000	0.015285
time	-0.286048	-0.058444	0.015285	1.000000

In [23]: `dat9=data.drop(columns=['movie'])`

In [15]: `print(dat9)`

	srno	year	rating	time
0	1	1993	3.9	4568.0
1	2	1932	3.5	4388.0
2	3	1921	3.2	9062.0
3	4	1991	2.8	6150.0
4	5	1963	2.8	5126.0
...	...	...	...	...
49585	49586	2013	2.8	1812.0
49586	49587	2013	NaN	6822.0
49587	49588	2010	NaN	3610.0
49588	49589	2010	2.7	NaN
49589	49590	2010	2.7	NaN

[49590 rows x 4 columns]

In [16]: `dat9.corr()`

Out[16]:

	srno	year	rating	time
srno	1.000000	0.401153	0.054288	-0.286048
year	0.401153	1.000000	0.156210	-0.058444
rating	0.054288	0.156210	1.000000	0.015285
time	-0.286048	-0.058444	0.015285	1.000000

```
In [20]: df=data.sample(n=2, replace=False, random_state=1, axis=0)
```

```
In [21]: df
```

```
Out[21]:
```

	srno	movie	year	rating	time
7791	7792	Dare	2009	2.9	5446.0
5730	5731	Leave It to Beaver: Season 5: Beaver the Babys...	1961	NaN	1540.0

```
In [ ]:
```