

# Import necessary Libraries/Packages

```
#Import the required package/libraries
import matplotlib.pyplot as plt
import pandas as pd
import json
import requests
from bs4 import BeautifulSoup
import numpy as np
import seaborn as sns
import matplotlib.pyplot as plt
import ast, json
from datetime import datetime
```

## Importing Files

```
pd.read_csv('movies_dfl.csv')
```

			The Godfather: Part II	1974	202	Crime, Drama	1,180,480	9.0	90	\$57.30M	\n Stars:\nAl Pacino, \nVnRobert De Niro, \n...	Francis Ford Coppola
...	...	...	...	...	...	...	...	...	...	...	...	...
95	95	Jodavey Nader az Simin	2011	123		Drama	231,381	8.3	95	\$7.10M	\n Stars:\nPayman Moadi, \nVnLeila Hatami, \n...	Asghar Farhadi
96	96	Incendies	2010	131		Drama, Mystery, War	161,082	8.3	80	\$6.86M	\n Stars:\nValeria Azabal, \nVnMelissa Desorme...	Denis Villeneuve
97	97	Kinetsu no Yaba: Mugen Ressha-Hen	2020	117		Animation, Action, Adventure	34,356	8.3	75	\$47.70M	\n Stars:\nNatsuki Hanae, \nVnAkari Kito, \n...	Hanuo Sotozaki
98	98	The Father	2020	97		Drama	92,041	8.3	88	0	\n Stars:\nAnthony Hopkins, \nVnOlivia Colma...	Florian Zeller
99	99	Babam ve Oglum	2005	112		Drama, Family	82,852	8.3	0	0	\n Stars:\nFeser Sariyar, \nVnCetin Tekindor...	Cagan Irmak
100 rows x 11 columns												
pd.read_csv("movies_df2.csv")												
Unnamed: 0		movie_name	year	time		genre	votes	rating	metascore	gross	stars	moviedirector
0	0	Inglourious Basterds	2009	153		Adventure, Drama, War	1,328,899	8.3	69	\$120.54M	\n Stars:\nBrad Pitt, \nVnDane Cooker, \nVnE...	Quentin Tarantino
1	1	Eternal Sunshine of the Spotless Mind	2004	108		Drama, Romance, Sci-Fi	946,095	8.3	89	\$34.40M	\n Stars:\nJim Carrey, \nVnKate Winslet, \nVnT...	Michel Gondry
2	2	Le fabuleux destin d'Am\u00e9lie Poulain	2001	122		Comedy, Romance	723,648	8.3	69	\$33.23M	\n Stars:\nAudrey Tautou, \nVnMathieu Kassov...	Jean-Pierre Jeunet
3	3	Snatch	2000	104		Comedy, Crime	809,751	8.3	55	\$30.33M	\n Stars:\nJason Statham, \nVnBrad Pitt, \nVnS...	Guy Ritchie
4	4	Requiem for a Dream	2000	102		Drama	794,016	8.3	68	\$3.64M	\n Stars:\nEllen Burstyn, \nVnJared Leto, \nVn...	Darren Aronofsky
...	...	...	...	...	...	...	...	...	...	...	...	...
95	95	All About Eve	1950	138		Drama	125,585	8.2	98	\$0.01M	\n Stars:\nBette Davis, \nVnKatharine Baxter, \nVnG...	Joseph L. Mankiewicz
96	96	The Treasure of the Sierra Madre	1948	126		Adventure, Drama, Western	119,324	8.2	98	\$5.01M	\n Stars:\nHumphrey Bogart, \nVnWalter Husto...	John Huston
97	97	To Be or Not to Be	1942	99		Comedy, Romance, War	33,478	8.2	86	0	\n Stars:\nCarole Lombard, \nVnJack Benny, \nVn...	Ernst Lubitch
98	98	The Gold Rush	1925	95		Adventure, Comedy, Drama	106,156	8.2	0	\$5.45M	\n Stars:\nCharles Chaplin, \nVnJack Swain, \n...	Charles Chaplin
99	99	Sherlock Jr.	1924	45		Action, Comedy, Romance	45,668	8.2	0	\$0.98M	\n Stars:\nBuster Keaton, \nVnTheda McCormi...	Buster Keaton
100 rows x 11 columns												
pd.read_csv("movies_df3.csv")												
Unnamed: 0		movie_name	year	time		genre	votes	rating	metascore	gross	stars	moviedirector
0	0	Portrait of the jeune fille en feu	2019	122		Drama, Romance	76,464	8.1	95	\$3.76M	\n Stars:\nNo\u00e9mie Merlant, \nVnAd\u00e9le Haenel...	C\u00e9line Sciamma
1	1	Pink III	2016	136		Crime, Drama, Thriller	42,212	8.1	0	\$1.24M	\n Stars:\nVnTaapee Panna, \nVnVibhata Bachch...	Aniruddha Roy Chowdhury
100 rows x 11 columns												

```
pd.read_csv('movies_dfl2.csv')
```

3	Contratiempo	2016	106	Crime, Drama, Mystery	159,618	8.1	0	0	\n Stars:\nMina Casas, \nAna Wagner, \n...	Oriol Paulo	
4	4	Ah-ga-si	2016	145	Drama, Romance, Thriller	127,058	8.1	84	\$2.01M	\n Stars:\nKim Min-hee, \nHa Jung-woo, \nY...	Park Chan-wook
...	...	...	...	...	...	...	...	...	...	...	
95	95	Solaris	1972	167	Drama, Mystery, Sci-Fi	86,480	8.1	90	0	\n Stars:\nNatalya Bondarchuk, \nDionatas B...	Andrei Tarkovsky
96	96	Le samouraï	1967	105	Crime, Drama, Mystery	48,225	8.1	0	\$0.04M	\n Stars:\nAlain Delon, \nFrançois P...	Jean-Pierre Melville
97	97	Cool Hand Luke	1967	127	Crime, Drama	169,619	8.1	92	\$16.22M	\n Stars:\nPaul Newman, \nGeorge Kennedy...	Stuart Rosenberg
98	98	Persona	1966	85	Drama, Thriller	110,175	8.1	86	0	\n Stars:\nBibi Andersson, \nLiv Ullmann...	Ingmar Bergman
99	99	Andrei Rublev	1969	205	Biography, Drama, History	50,590	8.1	0	\$0.10M	\n Stars:\nAnatoly Solomtyn, \nYevgen Lap...	Andrei Tarkovsky

100 rows x 11 columns

```
pd.read_csv("movies_df4.csv")
```

Unnamed: 0	movie_name	year	time	genre	votes	rating	metascore	gross	stars	moviedirector	
0	0	La battaglia di Algeri	1956	121	Drama, War	56,565	8.1	96	\$0.06M	\n Stars:\nBrahim Hadjadj, \nJean Martin...	Gillo Pontecorvo
1	1	El ángel exterminador	1962	95	Drama, Fantasy	31,648	8.1	0	0	\n Stars:\nSilvia Pinal, \nJaqueline Ande...	Luís Buñuel
2	2	What Ever Happened to Baby Jane?	1962	134	Drama, Horror, Thriller	52,653	8.1	75	\$4.05M	\n Stars:\nBette Davis, \nOlga Crawford...	Robert Aldrich
3	3	Sanjuro	1962	96	Action, Comedy, Crime	36,510	8.1	0	0	\n Stars:\nToshiro Mifune, \nYatsuya Nakad...	Akira Kurosawa
4	4	The Man Who Shot Liberty Valance	1962	123	Drama, Western	72,324	8.1	94	0	\n Stars:\nJames Stewart, \nJohn Wayne, \n...	John Ford
...	...	...	...	...	...	...	...	...	...	...	
95	95	Dogville	2003	178	Crime, Drama	143,292	8.0	60	\$1.53M	\n Stars:\nNicole Kidman, \nPaul Bettany...	Lars von Trier
96	96	Vizontele	2001	110	Comedy, Drama	35,123	8.0	0	0	\n Stars:\nVilmos Zsolt, \nViktor Kálk...	Yilmaz Erdoğan
97	97	Donnie Darko	2001	113	Drama, Mystery, Sci-Fi	762,527	8.0	88	\$1.48M	\n Stars:\nJake Gyllenhaal, \nJulene Malone...	Richard Kelly
98	98	Magnolia	1999	188	Drama	299,126	8.0	77	\$22.46M	\n Stars:\nTom Cruise, \nViggo Mortenson, \nVn...	Paul Thomas Anderson
99	99	Dancer in the Dark	2000	140	Crime, Drama, Musical	105,747	8.0	61	\$4.18M	\n Stars:\nVibeke, \nCatherine Deneuve, \nVnD...	Lars von Trier

100 rows x 11 columns

## Merging the Files

```
df_left = pd.read_csv('movies_df1.csv', header = 0, index_col=None)
df_right = pd.read_csv('movies_df2.csv', header = 0, index_col=None)
```

```
print(df_left)
print(df_right)
```

Unnamed: 0	movie_name	year	time	\
0	0	The Shawshank Redemption	1994	142
1	1	The Godfather	1972	175
2	2	Scentless Pomm	2010	153

```
pd.read_csv('movies_dfl3.csv')
```

97	96	Incendies	2010	131						
97	97	Kimetsu no Yaiba: Mugen Ressha-hen	2020	117						
98	98	The Father	2020	97						
99	99	Babam ve Oglum	2005	112						
genre votes rating metascore \										
0		Drama	2,456,339	9.3	80					
1		Crime, Drama	1,699,671	9.2	100					
2		Drama	89,415	8.1	0					
3		Action, Crime, Drama	2,412,037	9.0	84					
4		Crime, Drama	1,180,480	9.0	90					
...	...	...	...	...	...					
95		Drama	231,381	8.3	95					
96		Drama, Mystery, Thriller	161,082	8.3	80					
97		Animation, Action, Adventure	34,356	8.3	75					
98		Drama	92,041	8.3	98					
99		Drama, Fantasy	82,852	8.3	0					
gross stars \										
0	\$28.34M	\n Stars:\nTim Robbins, \nMorgan Freeman, ...								
1	\$134.97M	\n Stars:\nMarlon Brando, \nAl Pacino, \nVn...								
2	0	\n Stars:\nIndraps, \nVnKesh Raval, \nVn...								
3	\$534.86M	\n Stars:\nChristian Bale, \nNeheth Ledger...								
4	\$57.30M	\n Stars:\nAl Pacino, \nRobert De Niro, \nVn...								
...	...	...								
95	\$7.10M	\n Stars:\nMayman Maadi, \nLeila Hatami, \nVn...								
96	\$6.86M	\n Stars:\nRubina Aarabi, \nMiladisa Desorme...								
97	\$47.70M	\n Stars:\nMasatoshi Naruse, \nYukari Eto, \nVn...								
98	0	\n Stars:\nAnthony Hopkins, \nAnkivia Colma...								
99	0	\n Stars:\nVnSer Sariyer, \nVnGelin Tekindor...								
moviedirector										
0	Frank Darabont									
1	Francis Ford Coppola									
2	Buddha Hongara									
3	Christopher Nolan									
4	Francis Ford Coppola									
...	...									
95	Asghar Farhadi									
96	Denis Villeneuve									
97	Haruo Sotokatsu									
98	Florian Zeller									
99	Cagan Irmak									
100 rows x 11 columns										
Unnamed: 0 movie name year time \										
0	0	Ingolourous Bastards	2009	151						
1	1	Eternal Sunshine of the Spotless Mind	2004	108						
2	2	Le fabuleux destin d'Amélie Poulain	2001	123						
3	3	Snatch	2000	104						
4	4	Requiem for a Dream	2000	102						
...	...									
95	95	All About Eve	1950	138						
96	96	The Treasure of the Sierra Madre	1948	126						
97	97	To Be or Not to Be	1942	89						
98	98	The Gold Rush	1925	95						
99	99	Sherlock Jr.	1924	45						
genre votes rating metascore \										
0	Adventure, Drama, War	1,329,899	8.3	69						
1	Drama, Romance, Sci-Fi	946,095	8.3	89						
2	Comedy, Romance	723,448	8.3	69						
3	Comedy, Crime	809,751	8.3	55						
4	Drama	794,016	8.3	68						
...	...	...	...	...						
95	Drama	125,885	8.2	98						
96	Adventure, Drama, Western	119,324	8.2	98						
97	Comedy, Romance, War	33,478	8.2	86						
98	Adventure, Comedy, Drama	106,156	8.2	0						
99	Action, Comedy, Romance	45,668	8.2	0						
gross stars \										
0	\$120.34M	\n Stars:\nBrad Pitt, \nVnJane Kruger, \nVnL...								
1	\$34.40M	\n Stars:\nVnJim Carrey, \nVnMike Winslet, \nVn...								
2	\$33.23M	\n Stars:\nAudrey Tautou, \nVnMathias Kassov...								
3	\$30.33M	\n Stars:\nAdrian Stathan, \nVnBrad Pitt, \nVn...								
4	\$2.44M	\n Stars:\nVnLies Bursty, \nVnArash Leyli, \nVn...								
...	...	...								
95	\$0.01M	\n Stars:\nMatthe Davis, \nArash Baxter, \nVn...								
96	\$5.01M	\n Stars:\nVnRumplehrey Bogart, \nVnWalter Rusto...								
97	0	\n Stars:\nCarole Lombard, \nVnAlly Banny, \nVn...								
98	\$5.45M	\n Stars:\nVnCharles Chaplin, \nVnJackie Kall...								
99	\$0.98M	\n Stars:\nVnBuster Keaton, \nVnKathryn McGur...								
moviedirector										
0	Quentin Tarantino									
1	Michel Gondry									
2	Jean-Pierre Jeunet									
3	Guy Ritchie									
4	Darren Aronofsky									
...	...									
95	Joseph L. Mankiewicz									
96	John Huston									
97	Ernst Lubitsch									
98	Charles Chaplin									
99	Buster Keaton									
100 rows x 11 columns										

```
pd.read_csv('movies_dfl4.csv')
```

movieiset_1												
Unnamed: 0		movie_name	year	time	genre	votes	rating	metascore	gross	stars	moviedirector	
0	0	The Shawshank Redemption	1994	142	Drama	2,456,339	9.3	80	\$28.34M	\n Stars:\nTim Robbins,\nVnMorgan Freeman, ...	Frank Darabont	
1	1	The Godfather	1972	175	Crime, Drama	1,699,671	9.2	100	\$134.97M	\n Stars:\nMarlon Brando,\nVnAl Pacino, \nVn...	Francis Ford Coppola	
2	2	Scorralai Pottru	2020	153	Drama	89,415	9.1	0	0	\n Stars:\nSuryiya,\nVnParvath Revathi, \nVnApar...	Sudha Kungara	
3	3	The Dark Knight	2008	152	Action, Crime, Drama	2,412,057	9.0	84	\$534.86M	\n Stars:\nChristian Bale,\nVnHeath Ledger...	Christopher Nolan	
4	4	The Godfather: Part II	1974	202	Crime, Drama	1,180,480	9.0	90	\$57.30M	\n Stars:\nAl Pacino,\nVnRobert De Niro, ...	Francis Ford Coppola	
...	...	...	...	...	...	...	...	...	...	...	...	
95	95	All About Eve	1950	138	Drama	125,585	8.2	98	\$0.01M	\n Stars:\nBette Davis,\nVnKatharine Baxter, \nVn...	Joseph L Mankiewicz	
96	96	The Treasure of the Sierra Madre	1948	126	Adventure, Drama, Western	119,324	8.2	98	\$5.01M	\n Stars:\nHumphrey Bogart,\nVnWalter Husto...	John Huston	
97	97	To Be or Not to Be	1942	99	Comedy, Romance, War	33,478	8.2	86	0	\n Stars:\nCarole Lombard,\nVnJack Benny, ...	Ernst Lubitch	
98	98	The Gold Rush	1925	95	Adventure, Comedy, Drama	106,156	8.2	0	\$5.45M	\n Stars:\nCharles Chaplin,\nVnCharles Swan...	Charles Chaplin	
99	99	Sherlock Jr.	1924	45	Action, Comedy, Romance	45,668	8.2	0	\$0.98M	\n Stars:\nBuster Keaton,\nVnNatalie McGuir...	Buster Keaton	
200 rows x 11 columns												
movieiset_1_to_csv("movieiset_1.csv")												
pd.read_csv("movieiset_1.csv")												
Unnamed: 0	Unnamed: 0.1	movie_name	year	time	genre	votes	rating	metascore	gross	stars	moviedirector	
0	0	0	The Shawshank Redemption	1994	142	Drama	2,456,339	9.3	80	\$28.34M	\n Stars:\nTim Robbins,\nVnMorgan Freeman, ...	Frank Darabont
1	1	1	The Godfather	1972	175	Crime, Drama	1,699,671	9.2	100	\$134.97M	\n Stars:\nMarlon Brando,\nVnAl Pacino, \nVn...	Francis Ford Coppola
2	2	2	Scorralai Pottru	2020	153	Drama	89,415	9.1	0	0	\n Stars:\nSuryiya,\nVnParvath Revathi, \nVnApar...	Sudha Kungara
3	3	3	The Dark Knight	2008	152	Action, Crime, Drama	2,412,057	9.0	84	\$534.86M	\n Stars:\nChristian Bale,\nVnHeath Ledger...	Christopher Nolan
4	4	4	The Godfather: Part II	1974	202	Crime, Drama	1,180,480	9.0	90	\$57.30M	\n Stars:\nAl Pacino,\nVnRobert De Niro, ...	Francis Ford Coppola
...	...	...	...	...	...	...	...	...	...	...	...	
\n Stars:\nBette Davis,\nVnKatharine Baxter, \nVn...												

## Merging the Files

```
df_left = pd.read_csv('movies_dfl1.csv', header = 0, index_col=None)
df_right = pd.read_csv('movies_dfl2.csv', header = 0, index_col=None)
```

```
print(df_left)
print(df_right)
```

Unnamed: 0	movie_name	year	time	genre	votes	rating	metascore	gross	stars
0	The Shawshank Redemption	1994	142	Drama	2,456,339	9.3	80	\$28.34M	\n Stars:\nTim Robbins,\nMorgan Freeman, ...
1	The Godfather	1972	175	Crime, Drama	1,699,671	9.2	100	\$134.97M	\n Stars:\nMarlon Brando,\nAl Pacino, \nJ...
2	Sooraaai Potru	2020	153	Drama	89,415	9.1	0	0	\n Stars:\nSurija,\nVnParsh Rawal,\n\nAparn...
3	The Dark Knight	2008	152	Action, Crime, Drama	2,412,057	9.0	84	\$534.86M	\n Stars:\nChristian Bale,\nHeath Ledger, ...
4	The Godfather: Part II	1974	202	Crime, Drama	1,180,480	9.0	90	\$57.30M	\n Stars:\nAl Pacino,\nVnRobert De Niro, \n...
...	...	...	...	...	...	...	...	...	...
95	Jodavey Nader az Simin	2011	123	Drama	231,381	8.3	95	\$7.10M	\n Stars:\nPayman Moadi,\nVnLeila Hatami, ...
96	Incendies	2010	131	Drama, Mystery, War	161,082	8.3	80	\$6.86M	\n Stars:\nValeria Azabal,\nVnMelissa Desorme...
97	Kinetsu no Yaba: Mugen Resha-Hen	2020	117	Animation, Action, Adventure	34,356	8.3	75	\$47.70M	\n Stars:\nNatsuki Hanae,\nVnAkari Kito, \n...
98	The Father	2020	97	Drama	92,041	8.3	88	0	\n Stars:\nAnthony Hopkins,\nVnOlivia Colma...
99	Babam ve Oglum	2005	112	Drama, Family	82,852	8.3	0	0	\n Stars:\nFeser Sariyar,\nVnCetin Tekindor...
100 rows x 11 columns									

Unnamed: 0	movie_name	year	time	genre	votes	rating	metascore	gross	stars
0	Inglourious Basterds	2009	153	Adventure, Drama, War	1,328,899	8.3	69	\$120.54M	\n Stars:\nBrad Pitt,\nVnDiane Kruger, \nVnDiane Kruger, ...
1	Eternal Sunshine of the Spotless Mind	2004	108	Romance, Sci-Fi	946,095	8.3	89	\$34.40M	\n Stars:\nJim Carrey,\nVnKate Winslet, \nVn...
2	Le fabuleux destin d'Amélie Poulin	2001	122	Comedy, Romance	723,648	8.3	69	\$33.23M	\n Stars:\nAudrey Tautou,\nVnMathieu Kassov...
3	Snatch	2000	104	Comedy, Crime	809,751	8.3	55	\$30.33M	\n Stars:\nViggo Mortenson,\nVnBrad Pitt, \nVn...
...	...	...	...	...	...	...	...	...	...
95	All About Eve	1950	138	Drama	125,585	8.2	98	\$0.01M	\n Stars:\nBette Davis,\nVnAnne Baxter, \nVn...
96	The Treasure of the Sierra Madre	1948	126	Adventure, Drama, Western	119,324	8.2	98	\$5.01M	\n Stars:\nHumphrey Bogart,\nVnWalter Husto...
97	To Be or Not to Be	1942	99	Comedy, Romance, War	33,478	8.2	86	0	\n Stars:\nCarole Lombard,\nVnJack Benny, ...
98	The Gold Rush	1925	95	Adventure, Comedy, Drama	106,156	8.2	0	\$5.45M	\n Stars:\nCharles Chaplin,\nVnMack Swain, ...
99	Sherlock Jr.	1924	45	Action, Comedy, Romance	45,668	8.2	0	\$0.98M	\n Stars:\nBuster Keaton,\nVnKathryn McGur...
100 rows x 11 columns									

```
movieset_1 = pd.concat((df_left,df_right),axis=0,sort=False)
```

```
movieset_1
```

2	2	2	Sooraaai Pottru	2020	153	Drama	89,415	9.1	0	0	\n Stars:\nSurija,\nVnParash Rawal,\nVnAparn...	Sudha Kongara	
3	3	3	The Dark Knight	2008	152	Action, Crime, Drama	2,412,057	9.0	84	\$534.86M	\n Stars:\nChristian Bale,\nVnHeath Ledger...	Christopher Nolan	
4	4	4	The Godfather: Part II	1974	202	Crime, Drama	1,180,480	9.0	90	\$57.30M	\n Stars:\nAl Pacino,\nVnRobert De Niro, Vn...	Francis Ford Coppola	
--	--	--	--	--	--	--	--	--	--	--	--	--	
195	95	95	Dogville	2003	178	Crime, Drama	143,292	8.0	60	\$15.3M	\n Stars:\nNicole Kidman,\nVnPaul Bettany...	Lars von Trier	
196	96	96	Vizontele	2001	110	Comedy, Drama	35,123	8.0	0	0	\n Stars:\nVilmos Zsolt Erdogan,\nVnDemet Akkag...	Yilmaz Erdogan	
197	97	97	Donnie Darko	2001	113	Drama, Mystery, Sci-Fi	762,527	8.0	88	\$1.8M	\n Stars:\nJake Gyllenhaal,\nVnJena Malone...	Richard Kelly	
198	98	98	Magnolia	1999	188	Drama	299,126	8.0	77	\$22.46M	\n Stars:\nTom Cruise,\nVnJonas Roberts, Vn...	Paul Thomas Anderson	
199	99	99	Dancer in the Dark	2000	140	Crime, Drama, Musical	105,747	8.0	61	\$4.18M	\n Stars:\nIdoljap, VnKatherine Deneuve, VnD...	Lars von Trier	
400 rows x 12 columns													
#Reset the Index													
imdb_movies = imdb_movies.reset_index()													
imdb_movies													
index	Unnamed: 0	Unnamed: 0.1	movie_name	year	time	genre	votes	rating	metascore	gross	stars	moviedirector	
0	0	0	0	The Shawshank Redemption	1994	142	Drama	2,456,339	9.3	80	\$28.34M	\n Stars:\nTim Robbins,\nVnMorgan Freeman...	Frank Darabont
1	1	1	1	The Godfather	1972	175	Crime, Drama	1,699,671	9.2	100	\$134.97M	\n Stars:\nMarlon Brando,\nVnAl Pacino, Vn...	Francis Ford Coppola
2	2	2	2	Sooraaai Pottru	2020	153	Drama	89,415	9.1	0	0	\n Stars:\nSurija,\nVnParash Rawal,\nVnAparn...	Sudha Kongara
3	3	3	3	The Dark Knight	2008	152	Action, Crime, Drama	2,412,057	9.0	84	\$534.86M	\n Stars:\nChristian Bale,\nVnHeath Ledger...	Christopher Nolan
4	4	4	4	The Godfather: Part II	1974	202	Crime, Drama	1,180,480	9.0	90	\$57.30M	\n Stars:\nAl Pacino,\nVnRobert De Niro, Vn...	Francis Ford Coppola
--	--	--	--	--	--	--	--	--	--	--	--	--	
395	195	95	95	Dogville	2003	178	Crime, Drama	143,292	8.0	60	\$15.3M	\n Stars:\nNicole Kidman,\nVnPaul Bettany, ...	Lars von Trier
396	196	96	96	Vizontele	2001	110	Comedy, Drama	35,123	8.0	0	0	\n Stars:\nVilmos Zsolt Erdogan,	Yilmaz Erdogan

```
movieset_2.to_csv('movieset_2.csv')
```

```
pd.read_csv('movieset_2.csv')
```

imdb_remove_unnecessary_in_an_anoon											
imdb_movies.columns											
Index(['index', 'Unnamed: 0', 'Unnamed: 0.1', 'movie_name', 'year', 'time', 'genre', 'votes', 'rating', 'metascore', 'gross', 'stars', 'moviedirector'], dtype='object')											
#remove duplicate columns imdb_movies.drop('Unnamed: 0', axis=1,inplace=True)											
imdb_movies.drop('Unnamed: 0.1', axis=1,inplace=True)											
imdb_movies.head(100)											
	index	movie_name	year	time	genre	votes	rating	metascore	gross	stars	moviedirector
0	0	The Shawshank Redemption	1994	142	Drama	2,456,339	9.3	80	\$28.34M	\n Stars:\nTim Robbins,\nVnMorgan Freeman, ...	Frank Darabont
1	1	The Godfather	1972	175	Crime, Drama	1,699,671	9.2	100	\$13.974M	\n Stars:\nMarlon Brando,\nVnAl Pacino, \nVn...	Francis Ford Coppola
2	2	Sooraram Pottru	2020	153	Drama	89,415	9.1	0	0	\n Stars:\nVijayaya,\nVnRavi Ravall,\nVnAdam...	Sudha Kongara
3	3	The Dark Knight	2008	152	Action, Crime, Drama	2,412,057	9.0	84	\$534.86M	\n Stars:\nChristian Bale,\nVnHeath Ledger...	Christopher Nolan
4	4	The Godfather: Part II	1974	202	Crime, Drama	1,180,480	9.0	90	\$57.30M	\n Stars:\nAl Pacino,\nVnRobert De Niro, ...	Francis Ford Coppola
	--	--	--	--	--	--	--	--	--	--	--
95	95	Jodaeaye Nader az Simin	2011	123	Drama	231,381	8.3	95	\$7.10M	\n Stars:\nPayman Maadi,\nVnLeila Hatami, ...	Asghar Farhadi
96	96	Incendies	2010	131	Drama, Mystery, War	161,082	8.3	80	\$6.86M	\n Stars:\nLubna Azabal,\nVnMelissa Disorme...	Denis Villeneuve
97	97	Kimetsu no Yaiba: Mugen Ressha-Hen	2020	117	Animation, Action, Adventure	34,356	8.3	75	\$47.70M	\n Stars:\nYuu Suzuki,\nVnIsaki Kido, \nVn...	Haruo Sotogaki
98	98	The Father	2020	97	Drama	92,041	8.3	88	0	\n Stars:\nAnthony Hopkins,\nVnOlivia Colma...	Florian Zeller
99	99	Babam ve Oglum	2005	112	Drama, Family	82,852	8.3	0	0	\n Stars:\nEder Sarpac,\nVnOlcun Tekinder...	Cagan Irmak
100 rows x 11 columns											
imdb_movies.shape											
(400, 11)											
imdb_movies.info()											
<class 'pandas.core.frame.DataFrame'> RangeIndex: 400 entries, 0 to 399 Data columns (total 11 columns): # Column Non-Null Count Dtype 0 index 400 non-null int64 1 movie_name 400 non-null object 2 year 400 non-null object 3 time 400 non-null int64											

```
df_left = pd.read_csv('movieset_1.csv', header = 0, index_col=None)
df_right = pd.read_csv('movieset_2.csv', header = 0, index_col=None)
```

```
lmdb_movies = pd.concat((df_left,df_right),axis=0,sort=False)
```

396	196	Vizontele	2001	110	Comedy, Drama	35,123	8.0	0	0	Stars:Viktor Erdogan, Demet Altan E...	Viktor Erdogan
397	197	Donnie Darko	2001	113	Drama, Mystery, Sci-Fi	762,527	8.0	88	\$1.48M	Stars:Lake Gyllenhaal, Jena Malone, Mary M...	Richard Kelly
398	198	Magnolia	1999	188	Drama	299,126	8.0	77	\$22.46M	Stars:Tom Cruise, Jason Robards, Julianne ...	Paul Thomas Anderson
399	199	Dancer in the Dark	2000	140	Crime, Drama, Musical	105,747	8.0	61	\$4.18M	Stars:Björk, Catherine Deneuve, David Mors...	Lars von Trier

400 rows × 11 columns

# Converting 0 values as null

year = []  
for i in imdb\_movies['year']:  
 year.append(i.replace('1 ','').replace('111 ','').replace('11',''))

gross = []  
for i in imdb\_movies.gross:  
 if isnan(i) == 1:  
 gross.append(np.nan)  
 else:  
 gross.append(i)

imdb\_movies['gross'] = gross

imdb\_movies['gross']=imdb\_movies['gross'].str.replace("([5]","")

python-input-105-5f4a486953ed>1: FutureWarning: The default value of regex will change from True to False in a future version.  
imdb\_movies['gross']=imdb\_movies['gross'].str.replace("(\$)","")

imdb\_movies['gross']=imdb\_movies['gross'].str.replace("([M]","")

python-input-106-8ecd84a8535>1: FutureWarning: The default value of regex will change from True to False in a future version.  
imdb\_movies['gross']=imdb\_movies['gross'].str.replace("([M]","")

imdb\_movies['gross']=imdb\_movies['gross'].str.replace("(["]","")

python-input-107-06360200545>1: FutureWarning: The default value of regex will change from True to False in a future version.  
imdb\_movies['gross']=imdb\_movies['gross'].str.replace("(["]","")

imdb\_movies['gross']=imdb\_movies.gross.astype(float)

imdb\_movies.info()



```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 400 entries, 0 to 399
Data columns (total 11 columns):
 #   Column                Non-Null Count  Dtype
---  --
 0   index                 400 non-null    int64
 1   movie_name            400 non-null    object
 2   year                  400 non-null    int64
 3   time                  400 non-null    int64
 4   genre                 400 non-null    object
 5   votes                 400 non-null    object
 6   rating               400 non-null    float64
 7   matascor             400 non-null    int64
 8   gross                321 non-null    float64
 9   stars                 400 non-null    object
10   movieidirector        400 non-null    object
dtypes: float64(2), int64(3), object(6)
memory usage: 154KB
```

index	movie_name	year	time	genre	votes	rating	matascor	gross	stars	movieidirector
0	The Shawshank Redemption	1994	142	Drama	2,456,339	9.3	80	28.34	StarsTom Robbins, Morgan Freeman, Bob Gun...	Frank Darabont
1	The Godfather	1972	175	Crime, Drama	1,699,671	9.2	100	134.97	StarsMarlon Brando, Al Pacino, James Caan...	Francis Ford Coppola
2	Sororai Potru	2020	153	Drama	89,415	9.1	0	NaN	StarsSurjya, Paresh Rawal, Aparna Balamur...	Sudha Kongara
3	The Dark Knight	2008	152	Action, Crime, Drama	2,412,057	9.0	84	534.86	StarsChristian Bale, Heath Ledger, Aaron ...	Christopher Nolan
4	The Godfather: Part II	1974	202	Crime, Drama	1,180,480	9.0	90	57.30	StarsAl Pacino, Robert De Niro, Robert Du...	Francis Ford Coppola
...	...	...	...	...	...	...	...	...	...	...
395	Dogville	2003	178	Crime, Drama	143,292	8.0	60	1.53	StarsNicole Kidman, Paul Bettany, Lauren ...	Lars von Trier
396	Vizontele	2001	110	Comedy, Drama	35,123	8.0	0	NaN	StarsYilmaz Erdogan, Demet Akbag, Altan E...	Yilmaz Erdogan
397	Donnie Darko	2001	113	Drama, Mystery, Sci-Fi	762,527	8.0	88	1.48	StarsJake Gyllenhaal, Jena Malone, Mary M...	Richard Kelly
398	Magnolia	1999	188	Drama	299,126	8.0	77	22.46	StarsTom Cruise, Jason Robards, Julianne ...	Paul Thomas Anderson
399	Dancer in the Dark	2000	140	Crime, Drama, Musical	105,747	8.0	61	4.18	StarsBjörk, Catherine Deneuve, David Mors...	Lars von Trier

```
400 rows x 11 columns
```

```
lmdb_movies = lmdb_movies.drop_duplicates(keep = 'first')
lmdb_movies.shape
```

```
(400, 11)
```

```
lmdb_movies.shape
```

```
(400, 11)
```

```
lmdb_movies['gross'].value_counts()
```

```
0.01    6
0.17    1
0.06    4
1.11    3
0.10    3
...
315.58   1
95.66    1
0.75     1
2.80     1
223.81   1
Name: gross, Length: 289, dtype: int64
```

```
lmdb_movies.year.unique()
```

```
array(['1994', '1972', '2020', '2008', '1974', '1957', '2003', '1993', '2010', '2021', '1999', '2001', '1966', '2002', '1990', '1980', '1975', '2019', '2014', '1998', '1997', '1995', '1991', '1977', '1962', '1954', '1946', '2018', '2011', '2006', '2000', '1988', '1989', '1963', '1960', '1955', '1942', '1936', '1931', '2017', '2016', '2017', '2012', '2009', '2007', '1984', '1981', '1979', '1963', '1964', '1950', '1940', '2013', '2020', '2005', '2004', '1992', '1987', '1966', '1983', '1973', '1971', '1959', '1954', '1952', '1948', '1944', '1941', '1927', '1921', '2015', '1996', '1989', '1978', '1976', '1965', '1961', '1953', '1925', '1924', '1921', '2016', '2014', '2015', '2013', '1982', '1967', '1960', '1951', '1949', '1939', '1937', '1934', '1930', '1928', '1926', '1920', '2004'], dtype=object)
```

## Questions related to movies

### Top 10 gross movies

```
#Top Gross movie
gross_movies_df=lmdb_movies.sort_values(by="gross",ascending=False).head(10)
gross_movies_df
```

index	movie_name	year	time	genre	votes	rating	matascor	gross	stars	movieidirector
64	Avengers: Endgame	2019	181	Action, Adventure, Drama	932,485	8.4	78	858.37	StarsRobert Downey Jr., Chris Evans, Mark...	Anthony Russo
65	Avengers: Infinity War	2018	149	Action, Adventure, Sci-Fi	919,130	8.4	68	678.82	StarsRobert Downey Jr., Chris Evans, Mark...	Anthony Russo
371	The Avengers	2012	143	Action, Adventure, Sci-Fi	1,305,336	8.0	69	623.28	StarsRobert Downey Jr., Chris Evans, Scar...	Joss Whedon
3	The Dark Knight	2008	152	Action, Crime, Drama	2,412,057	9.0	84	534.86	StarsChristian Bale, Heath Ledger, Aaron ...	Christopher Nolan
68	The Dark Knight Rises	2012	164	Action, Adventure	1,574,147	8.4	78	448.14	StarsChristian Bale, Tom Hardy, Anne Hath...	Christopher Nolan
45	The Lion King	1994	88	Animation, Adventure, Drama	981,118	8.5	88	422.78	StarsMatthew Broderick, Jeremy Irons, Jam...	Roger Allers
158	Toy Story 3	2010	103	Animation, Adventure, Comedy	784,517	8.2	92	415.00	StarsTom Hanks, Tim Allen, Jon Cuac...	Lee Unkrich
271	Jurassic Park	1993	127	Action, Adventure, Sci-Fi	906,630	8.1	68	402.45	StarsSam Neill, Laura Dern, Jeff Goldblum...	Steven Spielberg
232	Harry Potter and the Deathly Hallows: Part 1	2011	130	Adventure, Drama, Fantasy	800,212	8.1	85	381.01	StarsDaniel Radcliffe, Emma Watson, Ruper...	David Yates
249	Finding Nemo	2003	100	Animation, Adventure, Comedy	982,038	8.1	90	380.84	StarsAlbert Brooks, Ellen DeGeneres, Alex...	Andrew Stanton

### Less gross movies

```
#Less Gross Movies
leassgross_movies_df=lmdb_movies.sort_values(by="gross", ascending=True).head(1)
leassgross_movies_df
```

index	movie_name	year	time	genre	votes	rating	matascor	gross	stars	movieidirector
246	Salinui cheuk	2003	131	Crime, Drama, Mystery	157,327	8.1	82	0.01	StarsKang-ho Song, Kim Sang-kyung, Roe-ha...	Bong Joon Ho
195	All About Eve	1950	138	Drama	125,585	8.2	98	0.01	StarsBette Davis, Anne Baxter, George San...	Joseph L. Mankiewicz
146	Udhan	2010	134	Drama	43,842	8.2	0	0.01	StarsRajat Barnacha, Ronit Roy, Marjot S...	Vikramaditya Motwane
370	Tropa de Elite	2007	115	Action, Crime, Drama	100,555	8.0	33	0.01	StarsWagner Moura, André Ramalho, Gedeon...	José Padilha
192	Dial M for Murder	1954	105	Crime, Thriller	166,190	8.2	75	0.01	StarsRay Milland, Grace Kelly, Robert Cum...	Alfred Hitchcock

### Top Rated Movie

```
#Top Rated Movies
rating_movies_df=lmdb_movies.sort_values(by="rating",ascending=False).head(1)
rating_movies_df
```

index	movie_name	year	time	genre	votes	rating	matascor	gross	stars	movieidirector
0	The Shawshank Redemption	1994	142	Drama	2,456,339	9.3	80	28.34	StarsTom Robbins, Morgan Freeman, Bob Gun...	Frank Darabont
1	The Godfather	1972	175	Crime, Drama	1,699,671	9.2	100	134.97	StarsMarlon Brando, Al Pacino, James Caan...	Francis Ford Coppola
2	Sororai Potru	2020	153	Drama	89,415	9.1	0	NaN	StarsSurjya, Paresh Rawal, Aparna Balamur...	Sudha Kongara
3	The Dark Knight	2008	152	Action, Crime, Drama	2,412,057	9.0	84	534.86	StarsChristian Bale, Heath Ledger, Aaron ...	Christopher Nolan
4	The Godfather: Part II	1974	202	Crime, Drama	1,180,480	9.0	90	57.30	StarsAl Pacino, Robert De Niro, Robert Du...	Francis Ford Coppola

### Low Rated Movie

```
#Low Rated Movies
leastrating_movies_df=lmdb_movies.sort_values(by="rating",ascending=False).tail(1)
leastrating_movies_df
```

index	movie_name	year	time	genre	votes	rating	matascor	gross	stars	movieidirector
362	Darbarey Ely	2009	119	Drama, Mystery	49,825	8.0	87	0.11	StarsGohisheth Farahani, Sophie Marceau...	Asghar Farhadi
363	DevD	2009	144	Comedy, Drama, Romance	29,760	8.0	0	0.01	StarsAbhay Deol, Mahie Gill, Kalki Koech...	Anurag Kashyap
364	Ip Man	2008	106	Action, Biography, Drama	216,749	8.0	59	NaN	StarsDonnie Yen, Simon Yam, Siu-Wing Fan...	Wilson Yip
365	My Name Is Khan	2010	165	Drama	102,528	8.0	50	4.02	StarsShah Rukh Khan, Kajol, Sheetal Menon...	Karan Johar
399	Dancer in the Dark	2000	140	Crime, Drama, Musical	105,747	8.0	61	4.18	StarsBjörk, Catherine Deneuve, David Mors...	Lars von Trier

```
#Functions To Find Minimum and Maximun
def find_min_max_in(col):
    top = lmdb_movies[col].idxmax()
    top_df = pd.DataFrame(lmdb_movies.loc[top])
    bottom = lmdb_movies[col].idxmin()
    bottom_df = pd.DataFrame(lmdb_movies.loc[bottom])
    info_df = pd.concat([top_df, bottom_df], axis=1)
    return info_df
```

### min and max in rating of movies

```
#Minimum and Maximum Rating
find_min_max_in('rating')
```

0	336
movie_index	0
movie_name	The Shawshank Redemption
year	1994
time	142
genre	Drama
votes	2,456,339
rating	9.3
matascor	80
gross	28.34
stars	StarsTom Robbins, Morgan Freeman, Bob Gun... StarsSimu Liu, Awkwafina, Tony Chiu-Wai Li...
movieidirector	Frank Darabont Destin Daniel Cretton

```
min_max=lmdb_movies['votes'].lmdb_movies.gross.astype(float)
```

### min and max in votes of movies

```
find_min_max_in('votes')
```

64	146
index	64
movie_name	Avengers: Endgame
year	2019
time	181
genre	Action, Adventure, Drama
votes	858,37
rating	8.4
matascor	78
gross	858.37
stars	StarsRobert Downey Jr., Chris Evans, M... StarsRajat Barnacha, Ronit Roy, Marjot...
movieidirector	Anthony Russo Vikramaditya Motwane

### min and max in runtime of movies

```
#Minimum and Maximum Line of movie
find_min_max_in('time')
```

145	199
index	145
movie_name	Gangs of Wasseypur
year	2012
time	321
genre	Action, Crime, Drama
votes	89,336
rating	8.2
matascor	89
gross	NaN
stars	StarsMand Bajapay, Richa Chadha, Nawazu... StarsBuster Keaton, Kathryn McGuire, Joe ...
movieidirector	Anurag Kashyap Buster Keaton

```
#Mean Run time of Movies
lmdb_movies['time'].mean()
```

```
130.95
```

```
#Max Run time of Movies
lmdb_movies['time'].max()
```

```
321
```

### Runtime of movie

```
plt.figure(figsize=(9,3), dpi = 100)

#On x-axis
plt.xlabel('Runtime of the lmdb_movies', fontsize = 15)
#On y-axis
plt.ylabel('Nos.of Movies in the Dataset', fontsize=15)
#Name of the graph
plt.title('Runtime of all the lmdb_movies', fontsize=15)

#Giving a histogram plot
plt.hist(lmdb_movies['time'], rwidth = 0.9, bins =35)
#displays the plot
plt.show()
```



### #Most Voted Movies or popular Movies

```
#Most Voted Movies or popular Movies
popular_movies_df=lmdb_movies.sort_values(by="votes", ascending=False).head(1)
popular_movies_df.head()
```

index	movie_name	year	time	genre	votes	rating	matascor	gross	stars	movieidirector
109	Braaveheart	1995	178	Biography, Drama, History	986,858	8.3	68	75.60	StarsMel Gibson, Sophie Marceau, Patrick Dempsey...	Mei Gibson
258	The Truman Show	1998	103	Comedy, Drama	985,890	8.1	90	125.62	StarsJim Carrey, Ed Harris, Laura Linney...	Peter Weir
116	Star Wars: Episode VI - Return of the Jedi	1983	131	Action, Adventure, Fantasy	984,184	8.3	58	309.13	StarsMark Hamill, Harrison Ford, Carrie Fisher...	Richard Marquand
249	Finding Nemo	2003	100	Animation, Adventure, Comedy	982,038	8.1	90	380.84	StarsShah Rukh Khan, Kajol, Sheetal Menon...	Andrew Stanton
45	The Lion King	1994	88	Animation, Adventure, Drama	981,118	8.5	88	422.78	StarsMatthew Broderick, Jeremy Irons, Jam...	Roger Allers

```
#Max Votes
lmdb_movies['votes'].max()
```

```
'986,858'
```

### Data according Directors

```
# Know how many movies directed by same director
lmdb_movies[lmdb_movies['movieidirector'] == "Francis Ford Coppola"]
```

index	movie_name	year	time	genre	votes	rating	matascor	gross	stars	movieidirector
1	The Godfather	1972	175	Crime, Drama	1,699,671	9.2	100	134.97	StarsMarlon Brando, Al Pacino, James Caan...	Francis Ford Coppola
4	The Godfather: Part II	1974	202	Crime, Drama	1,180,480	9.0	90	57.30	StarsAl Pacino, Robert De Niro, Robert Du...	Francis Ford Coppola
79	Apocalypse Now	1979	147	Drama, Mystery, War	628,404	8.4	94	83.47	StarsMarlon Brando, Martin Sheen, Marlon Brando, Robert ...	Francis Ford Coppola

```
lmdb_movies[lmdb_movies['movieidirector'] == "Christopher Nolan"]
```

index	movie_name	year	time	genre	votes	rating	matascor	gross	stars	movieidirector
3	The Dark Knight	2008	152	Action, Crime, Drama	2,412,057	9.0	84	534.86	StarsChristian Bale, Heath Ledger, Aaron ...	Christopher Nolan
10	Inception	2010	148	Action, Adventure, Sci-Fi	2,163,872	8.8	74	292.58	StarsLeonardo DiCaprio, Joseph Gordon-Lev...	Christopher Nolan
23	Interstellar	2014	169	Action, Adventure, Drama, Sci-Fi	1,608,386	8.6	74	188.02	StarsMatthew McConaughey, Anne Hathaway, ...	Christopher Nolan
38	The Prestige	2006	130	Drama, Mystery, Sci-Fi	1,241,512	8.5	66	53.09	StarsChristian Bale, Hugh Jackman, Scarle...	Christopher Nolan
68	The Dark Knight Rises	2012	164	Action, Adventure, Drama	1,574,147	8.4	78	448.14	StarsChristian Bale, Tom Hardy, Anne Hath...	Christopher Nolan
74	Memento	2000	113	Mystery, Thriller	1,166,633	8.4	80	25.54	StarsGuy Pearce, Carrie-Anne Moss, Joe Pa...	Christopher Nolan
160	Batman Begins	2005	140	Action, Adventure	1,357,044	8.2	70	206.85	StarsChristian Bale, Michael Caine, Ken W...	Christopher Nolan

### Different Genre in imdb movies

```
#Genre in Movies
lmdb_movies.genre.unique()
```

```
array(['Drama', 'Action, Crime, Drama', 'Action, Adventure, Drama', 'Biography, Drama, History', 'Action, Adventure, Sci-Fi', 'Action, Biography, Drama', 'Drama, Romance', 'Action, Sci-Fi', 'Biography, Crime, Drama', 'Action, Adventure, Fantasy', 'Comedy, Drama, Thriller', 'Crime, Drama, Thriller', 'Adventure, Drama, Sci-Fi', 'Animation, Adventure, Family', 'Crime, Drama, Fantasy', 'Comedy, Drama, Romance', 'Crime, Drama, Mystery', 'Action, Drama, Mystery', 'Drama, Family, Fantasy', 'Action, Crime, Mystery', 'Biography, Comedy, Drama', 'Drama, Mystery, Sci-Fi', 'Biography, Drama, Music', 'Crime, Mystery, Thriller', 'Animation, Adventure, Drama', 'Animation, Drama, War', 'Adventure, Comedy, Sci-Fi', 'Mystery, Thriller', 'Comedy, Drama, Family', 'Animation, Drama, Fantasy', 'Animation, Adventure, Comedy', 'Drama, Western, Fantasy', 'Comedy, Drama', 'Drama, Mystery, Thriller', 'Drama, Horror', 'Horror, Sci-Fi', 'Drama, Film-Noir', 'Action, Drama, War', 'Drama, Fantasy, Horror', 'Adventure, Drama, War', 'Drama, Romance, Sci-Fi', 'Comedy, Romance', 'Drama, Family, Sport', 'Drama, Thriller, War', 'Adventure, Drama, Thriller', 'Crime, Drama, Sci-Fi', 'Adventure, Sci-Fi', 'Adventure, Biography, Drama', 'Adventure, Mystery, Thriller', 'Mystery, Romance, Thriller', 'Comedy, Musical, Romance', 'Crime, Drama, Film-Noir', 'Drama, Mystery', 'Drama, Drama, Music', 'Drama, Comedy, Drama', 'Drama, Mystery, Romance', 'Drama, Fantasy, War', 'Action, Comedy, Crime', 'Animation, Family, Fantasy', 'Action, Thriller', 'Action, Adventure, Comedy', 'Adventure, Comedy, Fantasy', 'Drama, Musical', 'Adventure, Drama, History', 'Action, Drama, Thriller', 'Comedy, Music, Romance', 'Comedy, Drama, Thriller', 'Adventure, Drama, Western', 'Action, Comedy, Romance', 'Drama, Romance, Thriller', 'Action, Drama, Sci-Fi', 'Comedy, Drama, Fantasy', 'Adventure, Comedy, Crime', 'Action, Drama, Sport', 'Biography, Drama, Fantasy', 'Animation, Comedy, Drama', 'Animation, Action, Drama', 'Drama, Musical, Sport', 'Drama, Music, Romance', 'Comedy, Crime, Sport', 'Comedy, History, Romance', 'Adventure, Family, Fantasy', 'Adventure, Drama', 'Animation, Adventure, Fantasy', 'Horror, Mystery, Sci-Fi', 'Action, Sci-Fi, Thriller', 'Drama, Fantasy', 'Drama, Horror, Thriller', 'Drama, History', 'Film-Noir, Mystery, Thriller', 'Fantasy, Horror, Mystery', 'Comedy, Drama, Music', 'Action, Crime, Thriller', 'Biography, Drama, Thriller', 'Animation, Biography, Drama', 'Action, Adventure, Mystery', 'Crime, Drama, Romance', 'Action, Adventure, Thriller', 'Crime, Drama, Musical'], dtype=object)
```

### Data about Genre which got most rating

```
lmdb_movies.groupby(['genre'])['rating'].value_counts().sort_values(ascending=False)
```

genre	rating	count
Drama	8.1	12
	8.2	8
	8.3	7
Drama, Romance	8.1	6
Biography, Drama, History	8.1	6
	8.1	6
Animation, Drama, Fantasy	8.2	1
Animation, Drama, Fantasy	8.1	1
Animation, Drama, War	8.4	1
Western	8.5	1
	8.8	1
Name: rating, Length: 270, dtype: int64		

```
lmdb_movies.groupby(['year', 'votes'])['rating'].count().head(10)
```

year	votes	rating
1920	60,112	1
1921	119,746	1
1924	45,668	1
1925	16,156	1
1926	46,524	1
1927	166,348	1
1928	32,119	1
1929	32,119	1
1930	31,133	1
1931	25,257	1
Name: rating, dtype: int64		

### Stars in most of movies

```
lmdb_movies['stars']=lmdb_movies['stars'].str.strip('[]').str.replace(' ','')
lmdb_movies['stars']=lmdb_movies['stars'].str.split(',')
plt.subplots(figsize=(20,15))
lmdb_movies['stars'].value_counts().sort_values(ascending=False).plot(kind='bar',width=0.9,color='green',alpha=0.8)
ax=plt.gca()
ax.set_xlabel('Stars')
ax.set_ylabel('Count')
ax.set_title('Top Cast')
plt.show()
```

