

```
import pandas as pd
from pandas import DataFrame
import matplotlib.pyplot as plt
import seaborn as sns
from sklearn.cluster import KMeans
from sklearn.preprocessing import StandardScaler

data = pd.read_csv("/content/imdb_top_1000.csv")
df=pd.DataFrame(data)
print(df)
```

```

0      https://m.media-amazon.com/images/M/MV5BMDkYkY...
1      https://m.media-amazon.com/images/M/MV5BM2MyNj...
2      https://m.media-amazon.com/images/M/MV5BMTMxNT...
3      https://m.media-amazon.com/images/M/MV5BMWwMwMG...
4      https://m.media-amazon.com/images/M/MV5BMWU4N2...
..
995     https://m.media-amazon.com/images/M/MV5BNGEwMT...
996     https://m.media-amazon.com/images/M/MV5BODk3Yj...
997     https://m.media-amazon.com/images/M/MV5BM2U3Yz...
998     https://m.media-amazon.com/images/M/MV5BZTBmMj...
999     https://m.media-amazon.com/images/M/MV5BMTY5OD...

Series_Title Released_Year Certificate Runtime \
0  The Shawshank Redemption      1994      A  142 min
1      The Godfather              1972      A  175 min
2      The Dark Knight            2008     UA  152 min
3  The Godfather: Part II         1974      A  202 min
4      12 Angry Men               1957      U   96 min
..
995  Breakfast at Tiffany's       1961      A  115 min
996      Giant                   1956      G  201 min
997  From Here to Eternity        1953  Passed  118 min
998      Lifeboat                1944     NaN   97 min
999      The 39 Steps             1935     NaN   86 min

Genre IMDB_Rating \
0      Drama      9.3
1      Crime, Drama  9.2
2      Action, Crime, Drama  9.0
3      Crime, Drama  9.0
4      Crime, Drama  9.0
..
995  Comedy, Drama, Romance  7.6
996      Drama, Western  7.6
997      Drama, Romance, War  7.6
998      Drama, War  7.6
999  Crime, Mystery, Thriller  7.6

Overview Meta_score \
0  Two imprisoned men bond over a number of years...      80.0
1  An organized crime dynasty's aging patriarch t...     100.0
2  When the menace known as the Joker wreaks havo...      84.0
3  The early life and career of Vito Corleone in ...      90.0
4  A jury holdout attempts to prevent a miscarria...      96.0
..
995  A young New York socialite becomes interested ...      76.0
996  Sprawling epic covering the life of a Texas ca...      84.0
997  In Hawaii in 1941, a private is cruelly punish...      85.0
998  Several survivors of a torpedoed merchant ship...      78.0
999  A man in London tries to help a counter-espion...      93.0

Director Star1 Star2 \
0  Frank Darabont Tim Robbins Morgan Freeman
1  Francis Ford Coppola Marlon Brando Al Pacino
2  Christopher Nolan Christian Bale Heath Ledger
3  Francis Ford Coppola Al Pacino Robert De Niro
4  Sidney Lumet Henry Fonda Lee J. Cobb
```

```
# highest rated movie
highest_rating_row = df.loc[df['IMDB_Rating'].idxmax()]
highest_rated_movie_name = highest_rating_row['Released_Year']
```

```
# Display the name of the highest rated movie
print("The highest rated movie is:", highest_rated_movie_name)
sorted_df = df.sort_values(by='IMDB_Rating', ascending=True)
print("Movie release date in ascending order are:", sorted_df)
```

4	12 Angry Men	1957	U	96 min
3	The Godfather: Part II	1974	A	202 min
1	The Godfather	1972	A	175 min
0	The Shawshank Redemption	1994	A	142 min

	Genre	IMDB_Rating	\
966	Adventure, Drama, History	7.6	
930	Action, Drama, Mystery	7.6	
989	Comedy, Crime, Drama	7.6	
913	Drama, Thriller	7.6	
917	Drama	7.6	
..	
2	Action, Crime, Drama	9.0	
4	Crime, Drama	9.0	
3	Crime, Drama	9.0	
1	Crime, Drama	9.2	
0	Drama	9.3	

	Overview	Meta_score	\
966	NASA must devise a strategy to return Apollo 1...	77.0	
930	In 1985 where former superheroes exist, the mu...	56.0	
989	Private investigator Philip Marlowe helps a fr...	87.0	
913	A high school teacher's experiment to demonstr...	NaN	
917	A man with a fateful secret embarks on an extr...	36.0	
..	
2	When the menace known as the Joker wreaks havo...	84.0	
4	A jury holdout attempts to prevent a miscarria...	96.0	
3	The early life and career of Vito Corleone in ...	90.0	
1	An organized crime dynasty's aging patriarch t...	100.0	
0	Two imprisoned men bond over a number of years...	80.0	

	Director	Star1	Star2	\
966	Ron Howard	Tom Hanks	Bill Paxton	
930	Zack Snyder	Jackie Earle Haley	Patrick Wilson	
989	Robert Altman	Elliott Gould	Nina van Pallandt	
913	Dennis Gansel	Jürgen Vogel	Frederick Lau	
917	Gabriele Muccino	Will Smith	Rosario Dawson	
..	
2	Christopher Nolan	Christian Bale	Heath Ledger	
4	Sidney Lumet	Henry Fonda	Lee J. Cobb	
3	Francis Ford Coppola	Al Pacino	Robert De Niro	
1	Francis Ford Coppola	Marlon Brando	Al Pacino	
0	Frank Darabont	Tim Robbins	Morgan Freeman	

	Star3	Star4	No_of_Votes	Gross
966	Kevin Bacon	Gary Sinise	269197	173,837,933
930	Carla Gugino	Malin Akerman	500799	107,509,799
989	Sterling Hayden	Mark Rydell	26337	959,000
913	Max Riemelt	Jennifer Ulrich	102742	NaN
917	Woody Harrelson	Michael Ealy	286770	69,951,824
..
2	Aaron Eckhart	Michael Caine	2303232	534,858,444
4	Martin Balsam	John Fiedler	689845	4,360,000
3	Robert Duvall	Diane Keaton	1129952	57,300,000
1	James Caan	Diane Keaton	1620367	134,966,411
0	Bob Gunton	William Sadler	2343110	28,341,469

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```
#Total no of votes for director
total_votes = df.groupby('Director')['No_of_Votes'].sum()
print(total_votes)
filtered_df = df[df['IMDB_Rating'] > 8]
print("Rating above that 8.0:", filtered_df)
```

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194 Action, Comedy, Romance      8.2
193 Adventure, Comedy, Drama     8.2
320 Action, Adventure, Comedy    8.1
.. ...
217 Action, Biography, Drama     8.1
195 Drama, Romance              8.1
205 Animation, Adventure, Comedy 8.1
18 Biography, Drama, History     8.6
20 Drama                        8.6

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Overview Meta_score \
321 Hypnotist Dr. Caligari uses a somnambulist, Ce... NaN
127 The Tramp cares for an abandoned child, but ev... NaN
194 A film projectionist longs to be a detective, ... NaN
193 A prospector goes to the Klondike in search of... NaN
320 When Union spies steal an engineer's beloved l... NaN
.. ...
217 American car designer Carroll Shelby and drive... 81.0
195 On an isolated island in Brittany at the end o... 95.0
205 After landing the gig of a lifetime, a New Yor... 83.0
18 The real life of one of America's foremost fou... 90.0
20 Nedumaaran Rajangam "Maara" sets out to make t... NaN

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Director Star1 Star2 Star3 \
321 Robert Wiene Werner Krauss Conrad Veidt Friedrich Feher
127 Charles Chaplin Charles Chaplin Edna Purviance Jackie Coogan
194 Buster Keaton Buster Keaton Kathryn McGuire Joe Keaton
193 Charles Chaplin Charles Chaplin Mack Swain Tom Murray
320 Clyde Bruckman Buster Keaton Buster Keaton Marion Mack
.. ...
217 James Mangold Matt Damon Christian Bale Jon Bernthal
195 Céline Sciamma Noémie Merlant Adèle Haenel Luàna Bajrami
205 Pete Docter Kemp Powers Jamie Foxx Tina Fey
18 Thomas Kail Lin-Manuel Miranda Phillipa Soo Leslie Odom Jr.
20 Sudha Kongara Suriya Madhavan Paresh Rawal

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Star4 No_of_Votes Gross
321 Lil Dagover 57428 NaN
127 Carl Miller 113314 5,450,000
194 Erwin Connelly 41985 977,375
193 Henry Bergman 101053 5,450,000
320 Glen Cavender 81156 1,033,895
.. ...
217 Caitriona Balfe 291289 117,624,028
195 Valeria Golino 63134 3,759,854
205 Graham Norton 159171 NaN
18 Renée Elise Goldsberry 55291 NaN
20 Aparna Balamurali 54995 NaN

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[322 rows x 16 columns]
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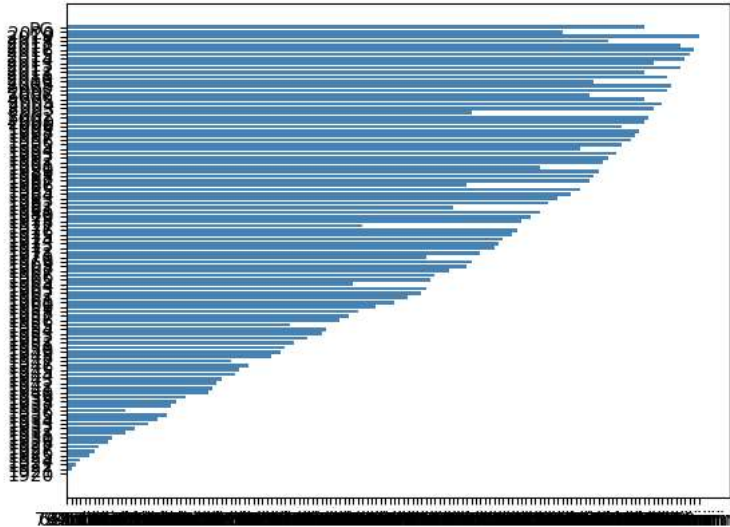
#Plot density of Movies released year wise
sns.kdeplot(data=df, x='IMDB_Rating', fill=True)
plt.xlabel('Rate')
plt.ylabel('Density')
plt.title('Duration of Movies Released Year-wise')
plt.show()

```

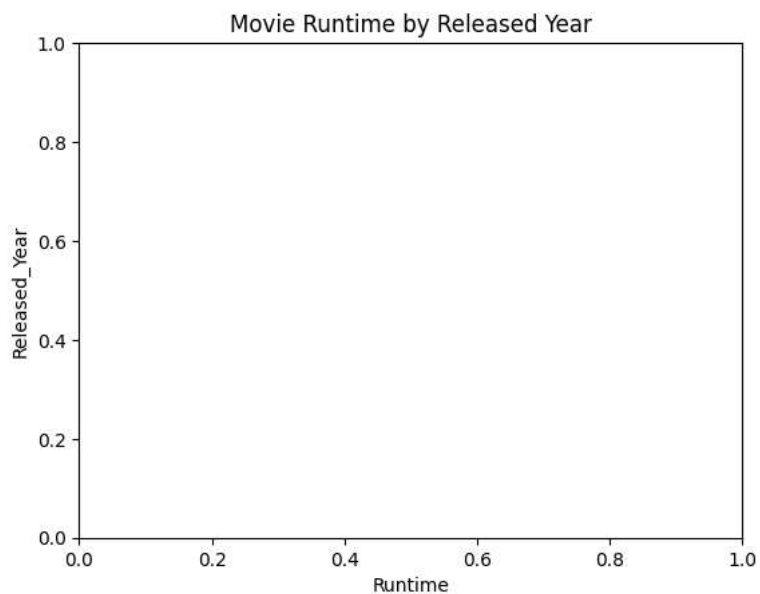
Duration of Movies Released Year-wise

```
#Plot horizontal bar plot of Released Year and Runtime
df.sort_values(by='Released_Year', inplace=True)
plt.barh(df['Released_Year'], df['Runtime'], color='steelblue')
```

<BarContainer object of 1000 artists>



```
# Add labels and title to the plot
plt.xlabel('Runtime')
plt.ylabel('Released_Year')
plt.title('Movie Runtime by Released Year')
plt.show()
```



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