```
import pandas as pd
df = pd.read_csv("imdb data.csv")
print(df)
```

1.Import pandas as pd

df = pd.read_csv("imdb data.csv")

print(df)

| | Name: Anurag Satish Ishwarkar |
| --- |
| Roll No: 471 |
| Prn No: 202201050047 |
| Batch:D4 |

```
           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  Meta_score             Director  \
0                   Drama          9.3        80.0        Frank Darabont
1            Crime, Drama          9.2       100.0  Francis Ford Coppola
2     Action, Crime, Drama          9.0        84.0     Christopher Nolan
3            Crime, Drama          9.0        90.0  Francis Ford Coppola
4            Crime, Drama          9.0        96.0          Sidney Lumet
..                  ...          ...         ...                 ...
995   Comedy, Drama, Romance         7.6        76.0         Blake Edwards
996          Drama, Western         7.6        84.0        George Stevens
997      Drama, Romance, War         7.6        85.0        Fred Zinnemann
998               Drama, War         7.6        78.0      Alfred Hitchcock
999   Crime, Mystery, Thriller        7.6        93.0      Alfred Hitchcock

            Star1              Star2  No_of_Votes        Gross
0     Tim Robbins    Morgan Freeman      2343110   28,341,469
1    Marlon Brando        Al Pacino      1620367  134,966,411
2    Christian Bale     Heath Ledger      2303232  534,858,444
3       Al Pacino    Robert De Niro      1129952   57,300,000
4     Henry Fonda      Lee J. Cobb       689845    4,360,000
..           ...               ...          ...          ...
995   Audrey Hepburn   George Peppard      166544          NaN
996  Elizabeth Taylor     Rock Hudson       34075          NaN
997   Burt Lancaster  Montgomery Clift      43374   30,500,000
998  Tallulah Bankhead     John Hodiak       26471          NaN
999    Robert Donat  Madeleine Carroll       51853          NaN

[1000 rows x 12 columns]
```

```
print(df[['Series_Title','Released_Year']])
```

```
           Series_Title Released_Year
0    The Shawshank Redemption        1994
1            The Godfather        1972
2            The Dark Knight        2008
3        The Godfather: Part II        1974
4                12 Angry Men        1957
..                  ...         ...
995    Breakfast at Tiffany's        1961
996                 Giant        1956
997     From Here to Eternity        1953
998                Lifeboat        1944
999            The 39 Steps        1935

[1000 rows x 2 columns]
```

3.```df.describe()```

|       | IMDB_Rating | Meta_score | No_of_Votes | ✨ |
|-------|-------------|------------|-------------|---|
| count | 1000.000000 | 843.000000 | 1.000000e+03 | |
| mean  | 7.949300    | 77.971530  | 2.736929e+05 | |
| std   | 0.275491    | 12.376099  | 3.273727e+05 | |

```
df.mean()
```

```
<ipython-input-7-c61f0c8f89b5>:1: FutureWarning: The default value of numeric_only in DataFrame.mean is deprecated. In a future v
  df.mean()
IMDB_Rating          7.94930
Meta_score          77.97153
No_of_Votes     273692.91100
dtype: float64
```

```
df.median()
```

```
<ipython-input-8-6d467abf240d>:1: FutureWarning: The default value of numeric_only in DataFrame.median is deprecated. In a future
  df.median()
IMDB_Rating          7.9
Meta_score          79.0
No_of_Votes     138548.5
dtype: float64
```

```
df.loc[df["Meta_score"].max()]
```

```
Series_Title          Bacheha-Ye aseman
Released_Year                      1997
Certificate                          PG
Runtime                          89 min
Genre             Drama, Family, Sport
IMDB_Rating                         8.3
Meta_score                         77.0
Director                  Majid Majidi
Star1              Mohammad Amir Naji
Star2         Amir Farrokh Hashemian
No_of_Votes                       65341
Gross                           933,933
Name: 100, dtype: object
```

```
df["No_of_Votes"].describe()
```

```
count    1.000000e+03
mean     2.736929e+05
std      3.273727e+05
min      2.508800e+04
25%      5.552625e+04
50%      1.385485e+05
75%      3.741612e+05
max      2.343110e+06
Name: No_of_Votes, dtype: float64
```

```
df.count()
```

```
Series_Title     1000
Released_Year    1000
Certificate       899
Runtime          1000
Genre            1000
IMDB_Rating      1000
Meta_score        843
Director         1000
Star1            1000
Star2            1000
No_of_Votes      1000
Gross             831
```

```
print(df.loc[df['IMDB_Rating']>9])
```

```
                 Series_Title Released_Year Certificate  Runtime         Genre  \
0   The Shawshank Redemption          1994           A  142 min         Drama
1             The Godfather          1972           A  175 min  Crime, Drama

    IMDB_Rating  Meta_score              Director          Star1  \
0          9.3        80.0        Frank Darabont    Tim Robbins
1          9.2       100.0  Francis Ford Coppola  Marlon Brando

            Star2  No_of_Votes        Gross
0   Morgan Freeman      2343110   28,341,469
1        Al Pacino      1620367  134,966,411
```

```
df.loc[ (df['IMDB_Rating']>8) & (df['No_of_Votes'] <689845) ]
```

| | Series_Title | Released_Year | Certificate | Runtime | Genre | IMDB_Rating | Meta_score | Director | |
|---|---|---|---|---|---|---|---|---|---|
| 12 | Il buono, il brutto, il cattivo | 1966 | A | 161 min | Western | 8.8 | 90.0 | Sergio Leone | E |
| 18 | Hamilton | 2020 | PG-13 | 160 min | Biography, Drama, History | 8.6 | 90.0 | Thomas Kail | |
| 19 | Gisaengchung | 2019 | A | 132 min | Comedy, Drama, Thriller | 8.6 | 96.0 | Bong Joon Ho | |
| 20 | Soorarai Pottru | 2020 | U | 153 min | Drama | 8.6 | NaN | Sudha Kongara | |
| 23 | Sen to Chihiro no kamikakushi | 2001 | U | 125 min | Animation, Adventure, Family | 8.6 | 96.0 | Hayao Miyazaki | |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | |
| 317 | La passion de Jeanne d'Arc | 1928 | Passed | 110 min | Biography, Drama, History | 8.1 | NaN | Carl Theodor Dreyer | F |
| 318 | The Circus | 1928 | Passed | 72 min | Comedy, Romance | 8.1 | 90.0 | Charles Chaplin | |
| 319 | Sunrise: A Song of Two Humans | 1927 | Passed | 94 min | Drama, Romance | 8.1 | NaN | F.W. Murnau | |
| 320 | The General | 1926 | Passed | 67 min | Action, Adventure, Comedy | 8.1 | NaN | Clyde Bruckman | |
| 321 | Das Cabinet des Dr. Caligari | 1920 | NaN | 76 min | Fantasy, Horror, Mystery | 8.1 | NaN | Robert Wiene | |

238 rows × 12 columns

```
print(df.iloc[::-1])
```

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

```
0       The Shawshank Redemption         1994         A  142 min
```

```
                      Genre  IMDB_Rating  Meta_score          Director  \
999  Crime, Mystery, Thriller          7.6        93.0   Alfred Hitchcock
998                Drama, War          7.6        78.0   Alfred Hitchcock
997       Drama, Romance, War          7.6        85.0     Fred Zinnemann
996            Drama, Western          7.6        84.0     George Stevens
995    Comedy, Drama, Romance          7.6        76.0      Blake Edwards
..                      ...          ...         ...                ...
4               Crime, Drama          9.0        96.0       Sidney Lumet
3               Crime, Drama          9.0        90.0 Francis Ford Coppola
2       Action, Crime, Drama          9.0        84.0   Christopher Nolan
1               Crime, Drama          9.2       100.0 Francis Ford Coppola
0                      Drama          9.3        80.0      Frank Darabont

                 Star1              Star2  No_of_Votes        Gross
999       Robert Donat  Madeleine Carroll        51853          NaN
998  Tallulah Bankhead        John Hodiak        26471          NaN
997     Burt Lancaster   Montgomery Clift        43374   30,500,000
996   Elizabeth Taylor        Rock Hudson        34075          NaN
995    Audrey Hepburn      George Peppard       166544          NaN
..                 ...                ...          ...          ...
4        Henry Fonda        Lee J. Cobb       689845    4,360,000
3          Al Pacino      Robert De Niro      1129952   57,300,000
2      Christian Bale       Heath Ledger      2303232  534,858,444
1      Marlon Brando          Al Pacino      1620367  134,966,411
0        Tim Robbins     Morgan Freeman      2343110   28,341,469

[1000 rows x 12 columns]
```

```
print(df.groupby('Runtime').count())
```

```
         Series_Title  Released_Year  Certificate  Genre  IMDB_Rating  \
Runtime
100 min            23             23           21     23           23
101 min            22             22           20     22           22
102 min            18             18           18     18           18
103 min            14             14           13     14           14
104 min            15             15           14     15           15
...               ...            ...          ...    ...          ...
95 min             13             13           10     13           13
96 min             17             17           13     17           17
97 min              9              9            7      9            9
98 min             11             11           10     11           11
99 min             14             14           12     14           14

         Meta_score  Director  Star1  Star2  No_of_Votes  Gross
Runtime
100 min          20        23     23     23           23     19
101 min          19        22     22     22           22     21
102 min          18        18     18     18           18     17
103 min          13        14     14     14           14     13
104 min          12        15     15     15           15     11
...             ...       ...    ...    ...          ...    ...
95 min            9        13     13     13           13     10
96 min           14        17     17     17           17     10
97 min            8         9      9      9            9      7
98 min            9        11     11     11           11     10
99 min           12        14     14     14           14     10

[140 rows x 11 columns]
```

```
df.groupby('Certificate').get_group('A')
```

| Series_Title | Released_Year | Certificate | Runtime | Genre | IMDB_Rating | Meta_score | Director | S |
|---|---|---|---|---|---|---|---|---|
| The Shawshank Redemption | 1994 | A | 142 min | Drama | 9.3 | 80.0 | Frank Darabont | Rol |
| The Godfather | 1972 | A | 175 min | Crime, Drama | 9.2 | 100.0 | Francis Ford Coppola | M Br |
| The Godfather: Part II | 1974 | A | 202 min | Crime, Drama | 9.0 | 90.0 | Francis Ford Coppola | Al Pa |
| Pulp Fiction | 1994 | A | 154 min | Crime, Drama | 8.9 | 94.0 | Quentin Tarantino | Tra |
| Schindler's List | 1993 | A | 195 min | Biography, Drama, History | 8.9 | 94.0 | Steven Spielberg | Ne |
| ... | ... | ... | ... | ... | ... | ... | ... | |
| Escape from Alcatraz | 1979 | A | 112 min | Action, Biography, Crime | 7.6 | 76.0 | Don Siegel | East |
| Midnight Express | 1978 | A | 121 min | Biography, Crime, Drama | 7.6 | 59.0 | Alan Parker | [ |
| The Long Goodbye | 1973 | A | 112 min | Comedy, Crime, | 7.6 | 87.0 | Robert Altman | F C |

```
df.head(20)
```

| | Series_Title | Released_Year | Certificate | Runtime | Genre | IMDB_Rating | Meta_score | Director |
|---|---|---|---|---|---|---|---|---|
| 0 | The Shawshank Redemption | 1994 | A | 142 min | Drama | 9.3 | 80.0 | Frank Darabont |
| 1 | The Godfather | 1972 | A | 175 min | Crime, Drama | 9.2 | 100.0 | Francis Ford Coppola |
| 2 | The Dark Knight | 2008 | UA | 152 min | Action, Crime, Drama | 9.0 | 84.0 | Christopher Nolan |
| 3 | The Godfather: Part II | 1974 | A | 202 min | Crime, Drama | 9.0 | 90.0 | Francis Ford Coppola |
| 4 | 12 Angry Men | 1957 | U | 96 min | Crime, Drama | 9.0 | 96.0 | Sidney Lumet |
| 5 | The Lord of the Rings: The Return of the King | 2003 | U | 201 min | Action, Adventure, Drama | 8.9 | 94.0 | Peter Jackson |
| 6 | Pulp Fiction | 1994 | A | 154 min | Crime, Drama | 8.9 | 94.0 | Quentin Tarantino |
| 7 | Schindler's List | 1993 | A | 195 min | Biography, Drama, History | 8.9 | 94.0 | Steven Spielberg |
| | | | | | Action, | | | Christopher |

```
df.tail(20)
```

| _Title | Released_Year | Certificate | Runtime | Genre | IMDB_Rating | Meta_score | Director | Star1 |
|---|---|---|---|---|---|---|---|---|
| Simple | 1984 | A | 99 min | Crime, Drama, Thriller | 7.6 | 82.0 | Joel Coen | Ethan Coen |
| Golden Pond | 1981 | UA | 109 min | Drama | 7.6 | 68.0 | Mark Rydell | Katharine Hepburn |
| I Max 2 | 1981 | A | 96 min | Action, Adventure, Sci-Fi | 7.6 | 77.0 | George Miller | Mel Gibson |
| Varriors | 1979 | UA | 92 min | Action, Crime, Thriller | 7.6 | 65.0 | Walter Hill | Michael Beck |
| Muppet Movie | 1979 | U | 95 min | Adventure, Comedy, Family | 7.6 | 74.0 | James Frawley | Jim Henson |
| be from Alcatraz | 1979 | A | 112 min | Action, Biography, Crime | 7.6 | 76.0 | Don Siegel | Clint Eastwood |
| atership Down | 1978 | U | 91 min | Animation, Adventure, Drama | 7.6 | 64.0 | Martin Rosen | John Hubley |
| Midnight Express | 1978 | A | 121 min | Biography, Crime, Drama | 7.6 | 59.0 | Alan Parker | Brad Davis |
| Close nters of rd Kind | 1977 | U | 138 min | Drama, Sci-Fi | 7.6 | 90.0 | Steven Spielberg | Richard Dreyfuss |

```
print(df.groupby('Director').count())
```

```
                     Series_Title  Released_Year  Certificate  Runtime  Genre  \
Director
Aamir Khan                      1              1            1        1      1
Aaron Sorkin                    1              1            1        1      1
Abdellatif Kechiche             1              1            1        1      1
Abhishek Chaubey                1              1            1        1      1
Abhishek Kapoor                 1              1            1        1      1
...                           ...            ...          ...      ...    ...
Zack Snyder                     2              2            2        2      2
Zaza Urushadze                  1              1            0        1      1
Zoya Akhtar                     2              2            2        2      2
Çagan Irmak                     1              1            0        1      1
Ömer Faruk Sorak                1              1            0        1      1

                     IMDB_Rating  Meta_score  Star1  Star2  No_of_Votes  Gross
Director
Aamir Khan                     1           0      1      1            1      1
Aaron Sorkin                   1           1      1      1            1      0
Abdellatif Kechiche            1           1      1      1            1      1
Abhishek Chaubey               1           0      1      1            1      0
Abhishek Kapoor                1           1      1      1            1      1
...                          ...         ...    ...    ...          ...    ...
Zack Snyder                    2           2      2      2            2      2
Zaza Urushadze                 1           1      1      1            1      1
Zoya Akhtar                    2           1      2      2            2      2
Çagan Irmak                    1           0      1      1            1      0
Ömer Faruk Sorak               1           0      1      1            1      0

[548 rows x 11 columns]
```

| Eternity | 1000 | Passed | 110 min | Romance, | 7.0 | 00.0 | Zinnemann | Lancaster |

```
df['Meta_score'].value_counts()
```

```
76.0    32
84.0    29
90.0    29
80.0    27
73.0    27
        ..
28.0     1
36.0     1
46.0     1
30.0     1
```

```
      41.0      1
      Name: Meta_score, Length: 63, dtype: int64
```

```
[df['IMDB_Rating'].max()]
```

```
      [9.3]
```

```
df['Series_Title']
```

```
      0        The Shawshank Redemption
      1                    The Godfather
      2                  The Dark Knight
      3            The Godfather: Part II
      4                    12 Angry Men
                              ...
      995      Breakfast at Tiffany's
      996                        Giant
      997       From Here to Eternity
      998                     Lifeboat
      999                The 39 Steps
      Name: Series_Title, Length: 1000, dtype: object
```

```
df['Star1']
```

```
      0             Tim Robbins
      1           Marlon Brando
      2          Christian Bale
      3               Al Pacino
      4             Henry Fonda
                        ...
      995        Audrey Hepburn
      996      Elizabeth Taylor
      997        Burt Lancaster
      998      Tallulah Bankhead
      999          Robert Donat
      Name: Star1, Length: 1000, dtype: object
```

```
df['Star2']
```

```
      0           Morgan Freeman
      1                Al Pacino
      2             Heath Ledger
      3           Robert De Niro
      4              Lee J. Cobb
                        ...
      995         George Peppard
      996           Rock Hudson
      997       Montgomery Clift
      998            John Hodiak
      999      Madeleine Carroll
      Name: Star2, Length: 1000, dtype: object
```

✓ 0s    completed at 11:55 PM                                    ● ✕