```python
#GE ASSIGNMENT 6

import pandas as pd
import matplotlib.pyplot as plt

data=pd.read_csv(r"C:\Users\Harsh\Downloads\IMDB2.csv")
print(data)

# group the data frame by year
grouped = data.groupby("Year of Release")
print('grouped=',grouped)


# calculate total number of movies and average rating per year
agg_dict = {"Movie Name": "count", "Rating": "mean"}
agg_df = grouped.agg(agg_dict)
print(agg_df)


# plot number of movies released vs. year using line and bar plots
fig, ax = plt.subplots(2, 1, figsize=(10, 10))
agg_df["Movie Name"].plot(kind="line", ax=ax[0])
agg_df["Movie Name"].plot(kind="bar", ax=ax[1])
ax[0].set_xlabel("Year")
ax[0].set_ylabel("Number of Movies Released")
ax[1].set_xlabel("Year")
ax[1].set_ylabel("Number of Movies Released")
plt.show()
```

	S.No.	Movie Name	...	Rating	Duration(in hrs)
0	1	The Nightmare Before Christmas	...	3.9	1.268889
1	2	The Mummy	...	3.5	1.218889
2	3	Orphans of the Storm	...	3.2	2.517222
3	4	The Object of Beauty	...	2.8	1.708333
4	5	Night Tide	...	2.8	1.423889
..	...	...	...	...	...
345	346	I'll Be Home for Christmas	...	3.7	1.435000
346	347	Guinevere	...	2.9	1.749722
347	348	Babar King of the Elephants	...	3.2	1.321111
348	349	The Boxer	...	3.6	1.814167
349	350	From Dusk Till Dawn 2: Texas Blood Money	...	3.0	1.472222

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```
grouped= <pandas.core.groupby.generic.DataFrameGroupBy object at 0x000001D1AC0B1850>
                 Movie Name    Rating
Year of Release
1915                      1  2.900000
1919                      1  3.300000
1920                      3  3.100000
1921                      1  3.200000
1923                      2  3.450000
1924                      1  3.300000
1925                      3  3.333333
1927                      1  3.100000
1928                      1  3.700000
1929                      1  3.500000
1932                      1  3.500000
1935                      1  3.700000
1936                      1  3.100000
1937                      2  3.300000
1938                      1  3.700000
1939                      1  3.100000
1947                      1  3.700000
1950                      1  3.800000
1952                      1  3.900000
1953                      1  3.200000
1956                      1  3.500000
1959                      1  3.600000
1963                      1  2.800000
1964                      2  3.600000
1968                      3  3.033333
1969                      2  3.600000
1970                      2  3.750000
1971                      8  3.387500
1972                      6  3.233333
1973                      4  3.050000
1974                      2  2.450000
```

Ln: 78 Col: 0

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```
1964                    2  3.600000
1968                    3  3.033333
1969                    2  3.600000
1970                    2  3.750000
1971                    8  3.387500
1972                    6  3.233333
1973                    4  3.050000
1974                    2  2.450000
1975                    4  3.425000
1976                    3  3.133333
1977                    1  2.700000
1978                    4  3.425000
1979                    4  3.075000
1980                    3  3.433333
1981                    3  3.633333
1982                    2  3.700000
1983                    1  3.600000
1984                    4  3.500000
1985                    7  3.500000
1986                    9  3.522222
1987                    7  3.342857
1988                    6  3.433333
1989                    8  3.300000
1990                    8  3.525000
1991                   11  3.400000
1992                   11  3.600000
1993                   12  3.483333
1994                   21  3.423810
1995                   30  3.406667
1996                   29  3.386207
1997                   40  3.415000
1998                   52  3.390385
1999                   12  3.333333
>>>
```

Ln: 78 Col: 0

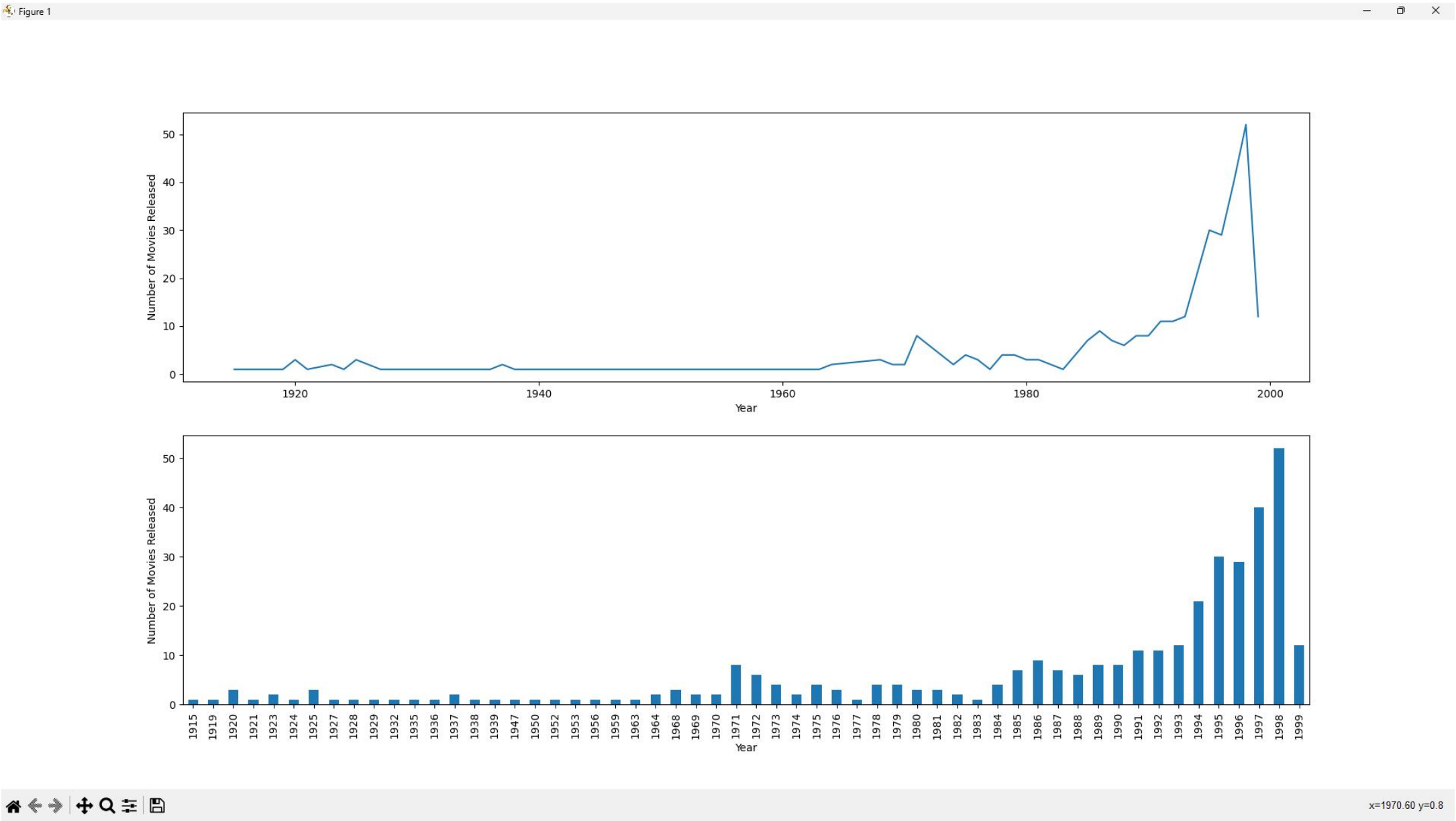
Figure 1
Number of Movies Released
Year
1920
1940
1960
1980
2000
Number of Movies Released
Year
1915 1919 1920 1921 1923 1924 1925 1927 1928 1929 1932 1935 1936 1937 1938 1939 1947 1950 1952 1953 1956 1959 1963 1964 1968 1969 1970 1971 1972 1973 1974 1975 1976 1977 1978 1979 1980 1981 1982 1983 1984 1985 1986 1987 1988 1989 1990 1991 1992 1993 1994 1995 1996 1997 1998 1999
x=1970.60 y=0.8