

Video Game Analysis

Rutgers Data Science Bootcamp
(Monday-Wednesday)

Team-8

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TRENDS, INSIGHTS OF VIDEO
GAMES TILL 2016



GAMES ANALYSIS REPORT



Purpose of This Project

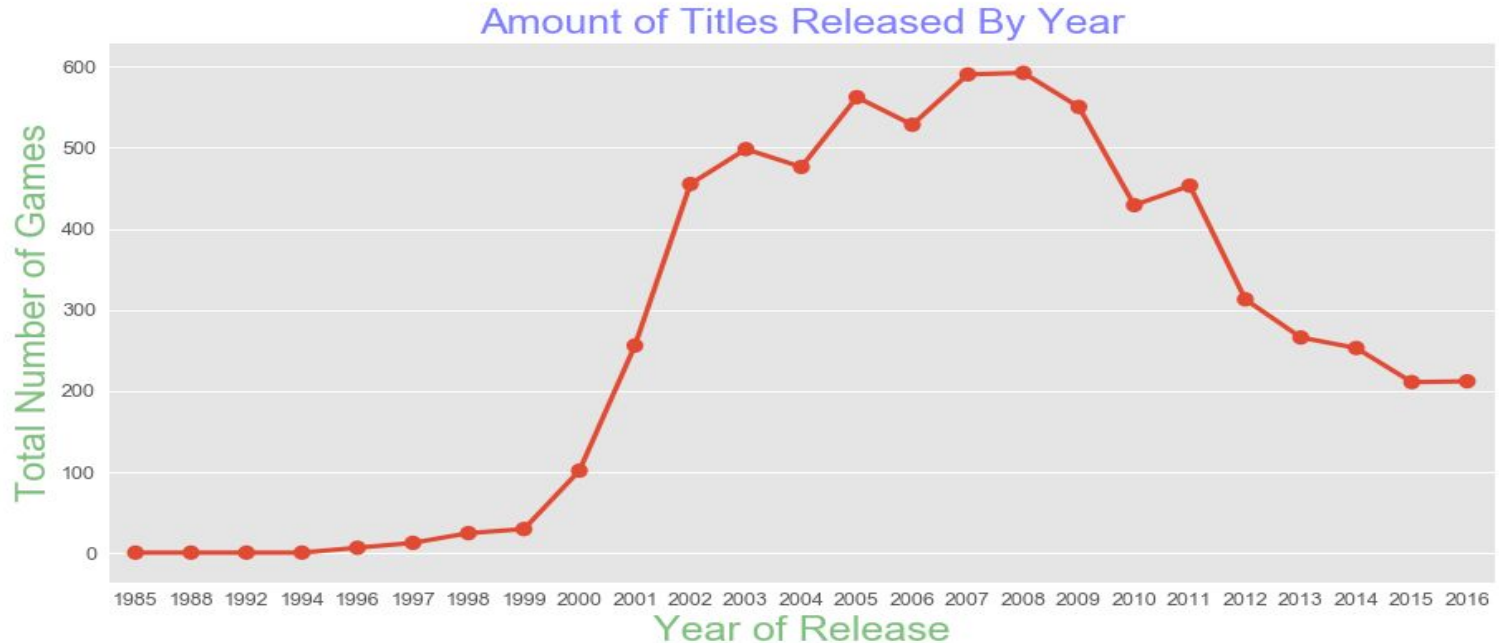
- Wanted to analyze trends with Video Game sales
- Questions to be answered:
 - Which genres are the most popular?
 - Which region has the highest sales?
 - Which games have the highest scores?
 - Which rating is the most popular?
 - What correlations can we draw between popularity and sales?
- How will this be achieved?
 - Using python, pandas, matplotlib, Jupyter Notebook, we will write different queries to analyze data and build analytical charts
- What is the data we are working with? There are 16,598 records and after the cleaning we had more than 7,000 records.

GLOBAL GAMES MARKET SALES

	NA_Sales	EU_Sales	JP_Sales	Other_Sales	Global_Sales
Name					
Wii Sports	41.36	28.96	3.77	8.45	82.53
Grand Theft Auto V	23.84	23.42	1.42	7.90	56.57
Mario Kart Wii	15.68	12.76	3.79	3.29	35.52
Wii Sports Resort	15.61	10.93	3.28	2.95	32.77
Call of Duty: Modern Warfare 3	15.54	11.15	0.62	3.29	30.59
New Super Mario Bros.	11.28	9.14	6.50	2.88	29.80
Call of Duty: Black Ops II	14.08	10.84	0.72	3.76	29.40
Call of Duty: Black Ops	16.99	8.54	0.59	3.08	29.19
Wii Play	13.96	9.18	2.93	2.84	28.92
New Super Mario Bros. Wii	14.44	6.94	4.70	2.24	28.32
Call of Duty: Ghosts	14.71	8.48	0.48	3.03	26.70
Call of Duty: Modern Warfare 2	13.52	8.02	0.46	2.97	24.95
Grand Theft Auto: San Andreas	10.69	1.94	0.41	10.70	23.73
Mario Kart DS	9.71	7.47	4.13	1.90	23.21
Wii Fit	8.92	8.03	3.60	2.15	22.70

Amount of Titles Released By Year

```
titles_by_year = file_pd.groupby(["Year_of_Release"]).count()["Name"]  
titles_by_year
```

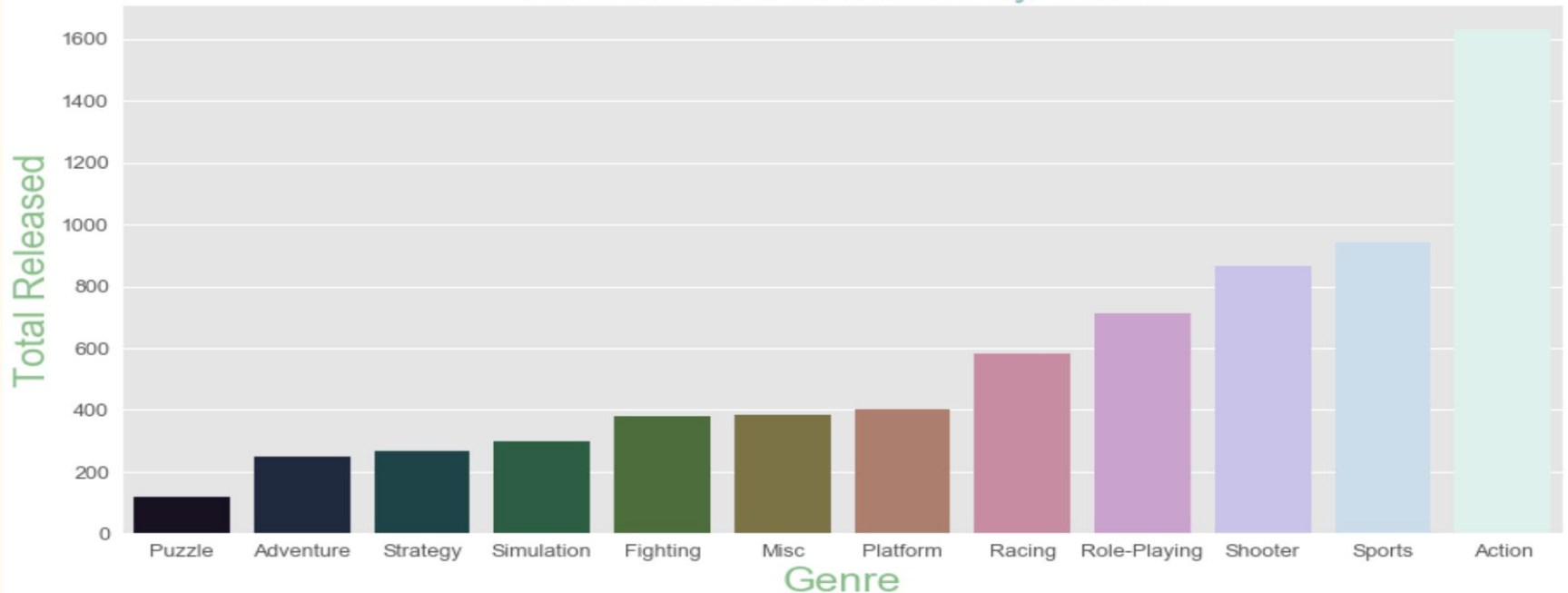


Total Number of Games by Genres

#Number of games by genres

```
games_by_genre = file_pd.groupby([ "Genre" ]).count()[ "Name" ].sort_values()  
games_by_genre
```

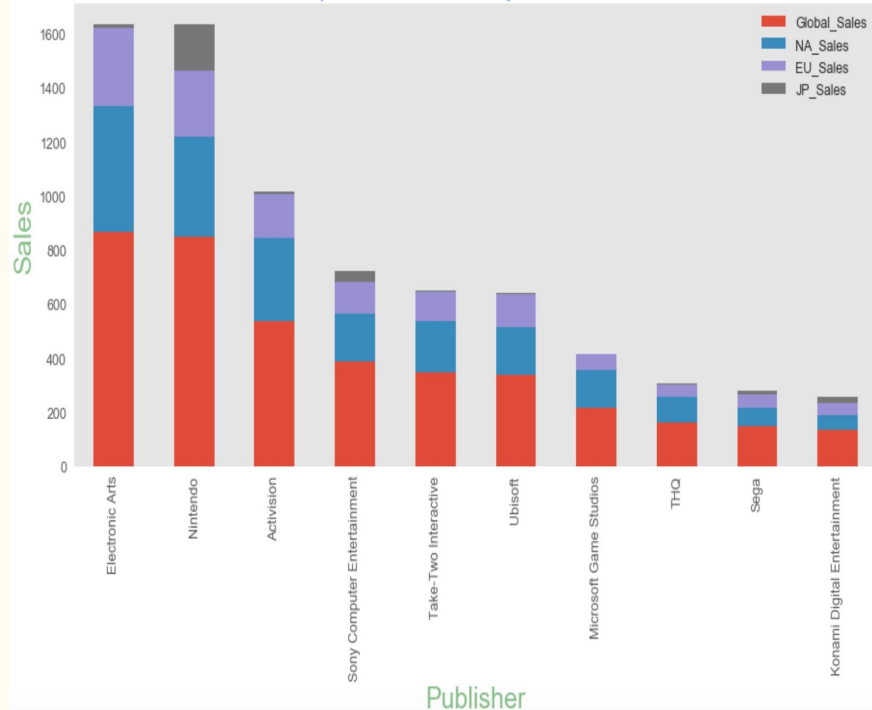
Total Number of Games by Genre



Top 10 Publishers and Platforms By Global Sales

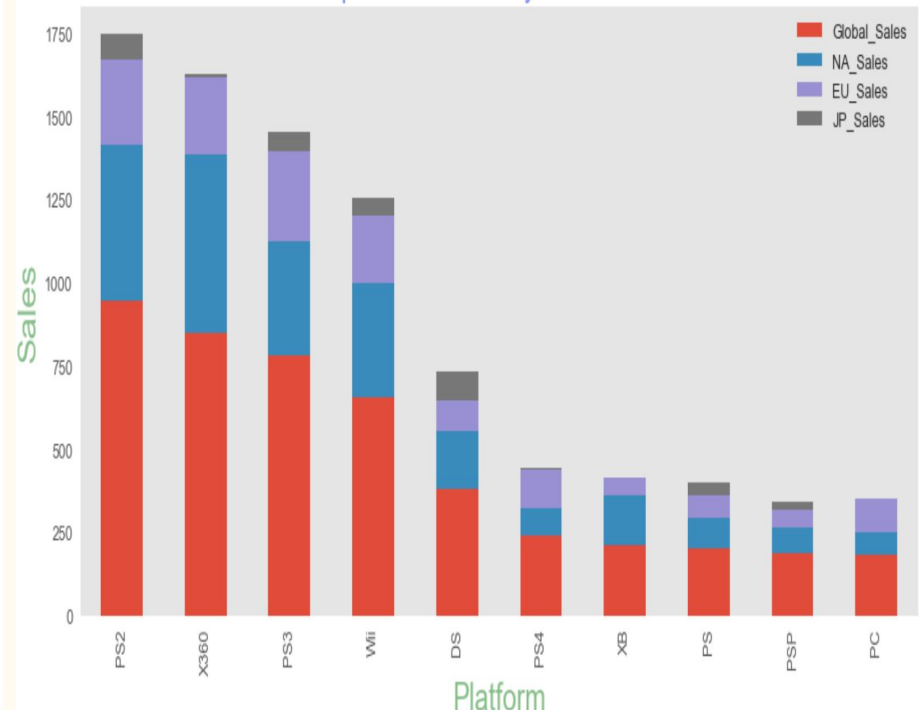
```
global_sales_publisher = file_pd.pivot_table(index=['Publisher'], values=['Global_Sales', 'NA_Sales', 'EU_Sales', 'JP_Sales'],  
aggfunc=np.sum).sort_values(['Global_Sales'], ascending  
=False)
```

Top 10 Publishers by Global Sales



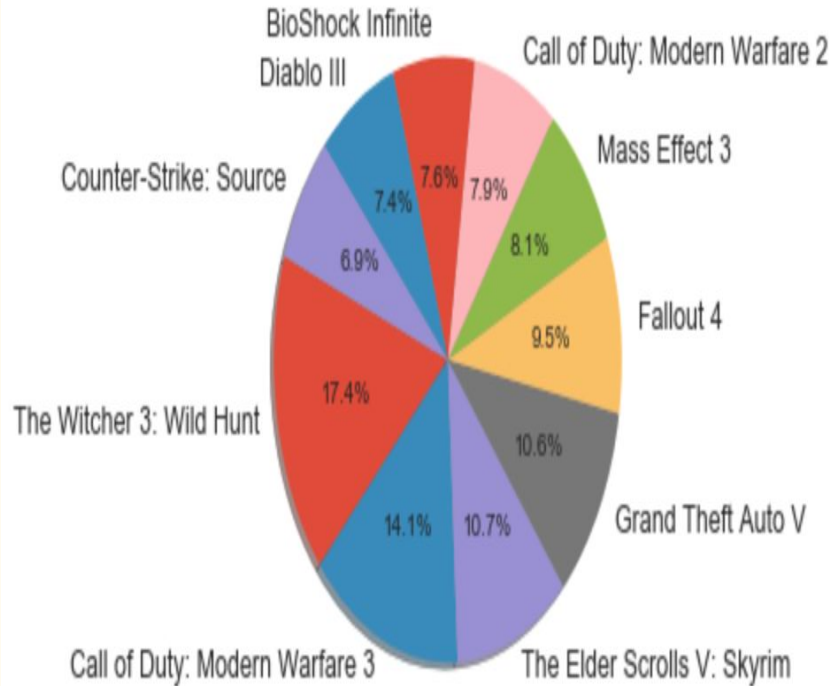
```
global_sales_platform = file_pd.pivot_table(index=['Platform'], values=['Global_Sales', 'NA_Sales', 'EU_Sales', 'JP_Sales'],  
aggfunc=np.sum).sort_values(['Global_Sales'], ascending  
=False)
```

Top 10 Platforms by Global Sales

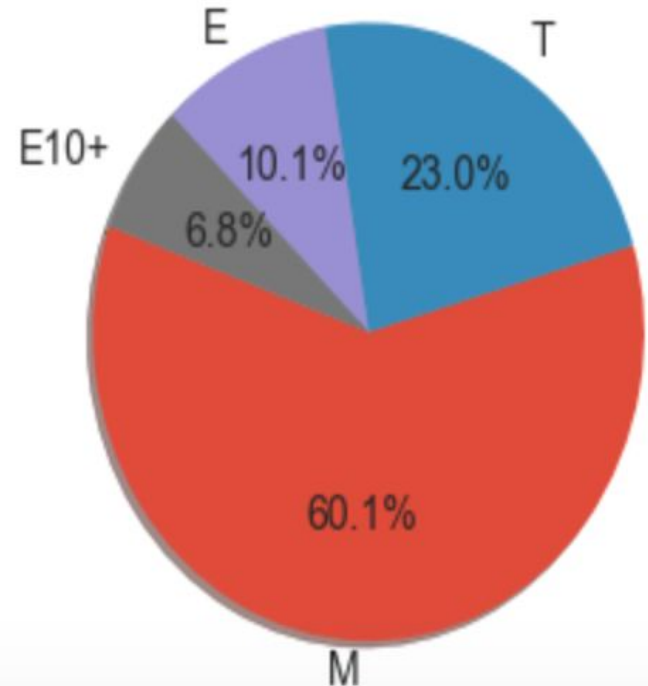


Most Popular Games and Ratings

```
genre_user_ratings = file_pd.groupby(["Name"])["User_Count"].sum().reset_index()
genre_user_ratings = genre_user_ratings.sort_values("User_Count", ascending = False).head(10)
```



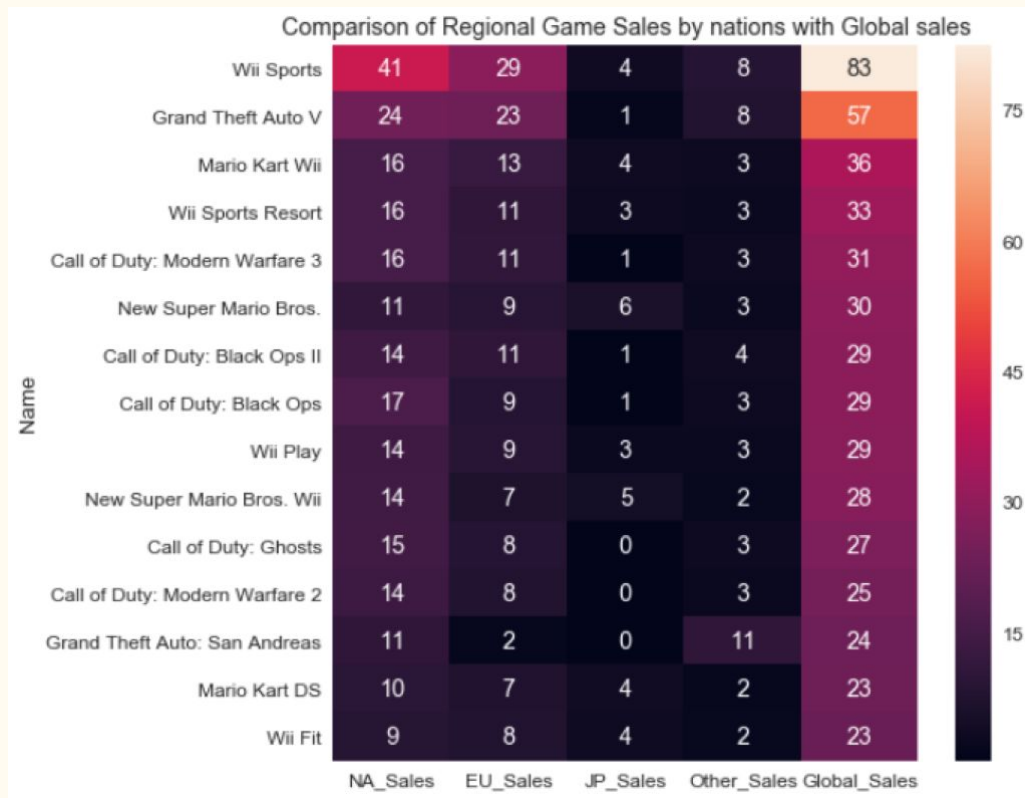
```
top_ratings = file_pd.groupby(["Rating"])["User_Count"].sum().reset_index()
top_ratings = top_ratings.sort_values("User_Count", ascending = False).head(4)
```



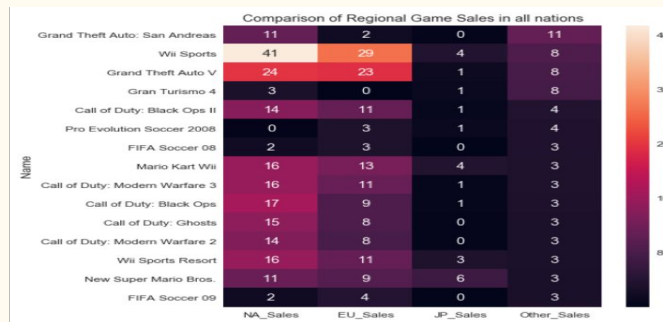
Overall Market Trends in Terms of Sales

GAMES are rapidly becoming the World's Favorite Pastime

- Wii Sports is the highest selling game in the Global Market
- Irrespective of platforms (PS3,PS4,PC,XOne,X360) the “Grand Theft Auto V” is second highest selling game.
- Games in Genres such as Action , Sports, Shooter, Role Playing is Globally in higher position.

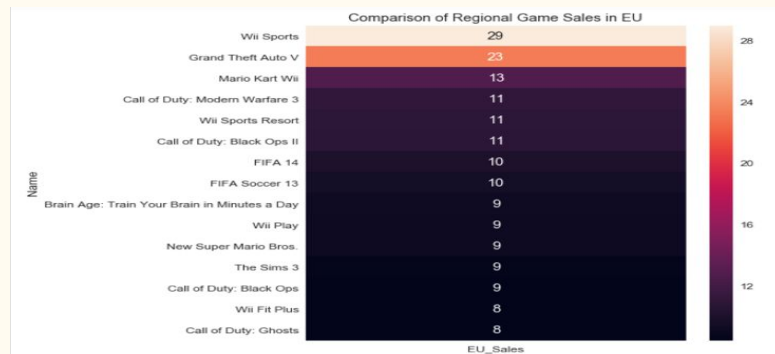
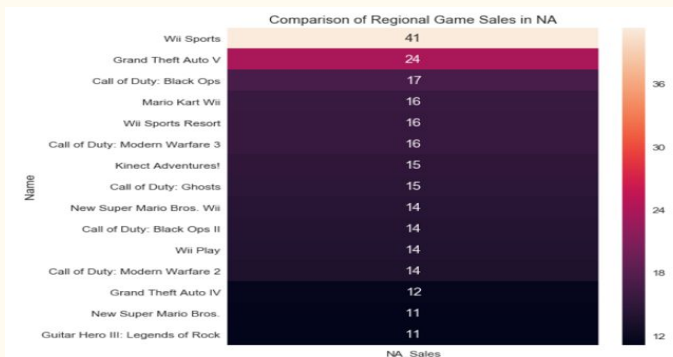


Game Sale based on Nations

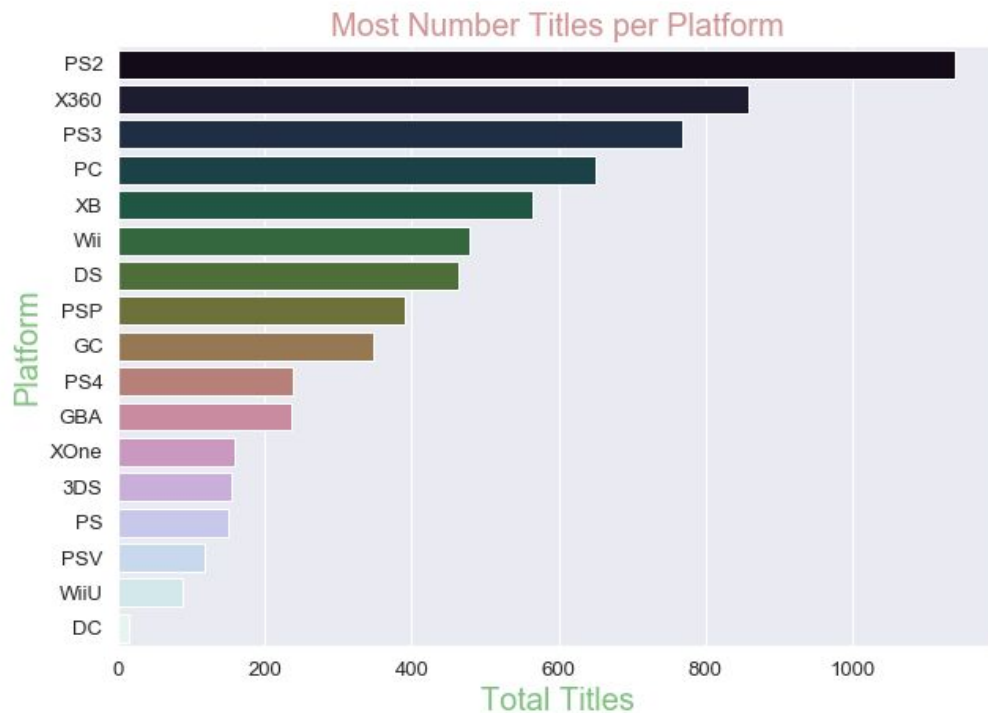


Example query:

```
result = df_2.sort_values(by = ['NA_Sales'],
                           ascending=False).head(15)
result_1 = result[['NA_Sales']]
```



Most popular platforms for video game developers

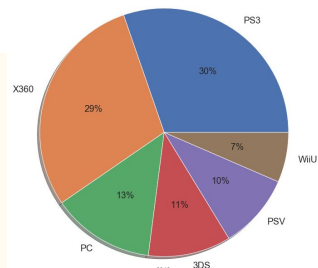
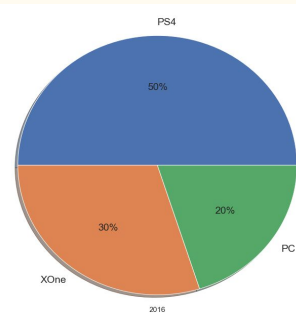
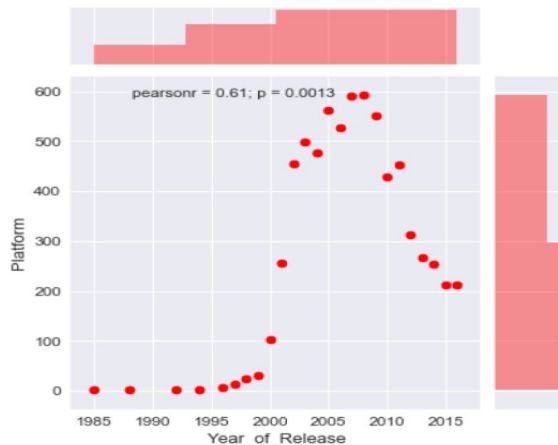
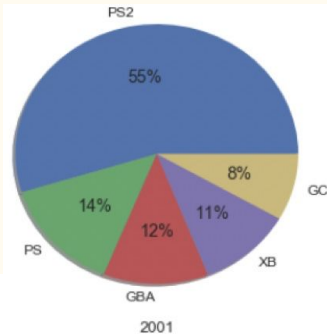


```
#df_4 contains name and platform info
df_4 = df[['Name', 'Platform']]
df_5 = df_4.groupby('Platform').count()
df_6 = df_5.sort_values(by = ['Name'], ascending=False)
df_6
```

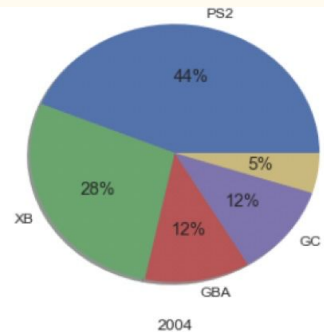
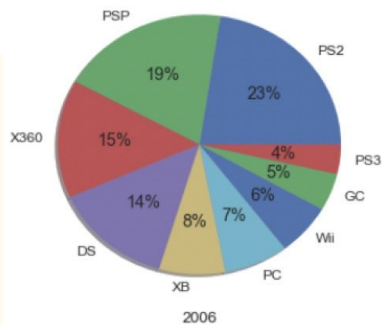
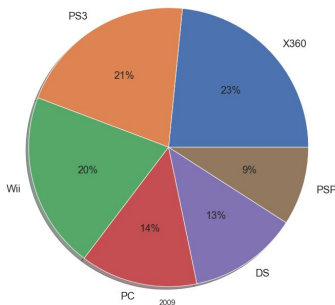
	Name
Platform	
PS2	1140
X360	858
PS3	769
PC	651
XB	565
Wii	479
DS	464
PSP	390
GC	348
PS4	239
GBA	237
XOne	159

Platforms over the year

BASED ON GAME SALES PER GENRE & PUBLISHER



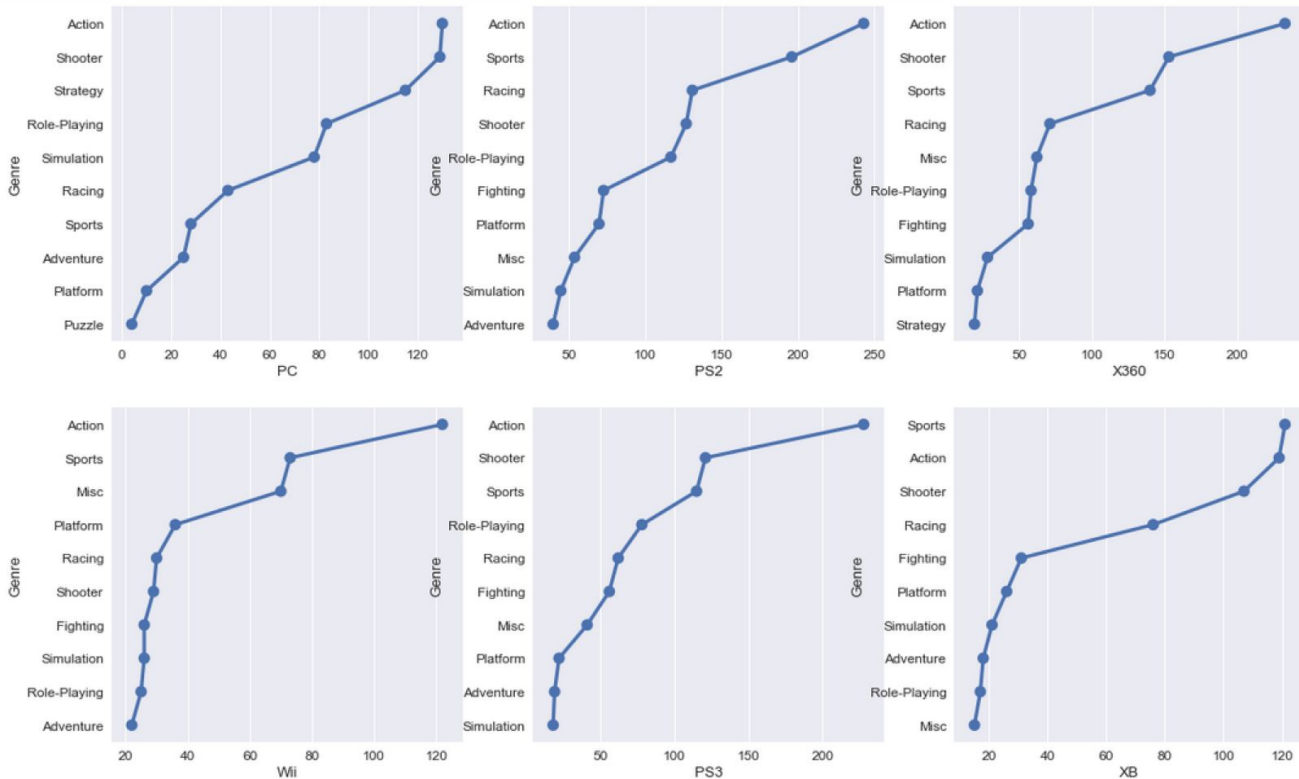
```
df_13 = df[['Year_of_Release',  
            'Platform']]  
df_14 = pd.DataFrame  
(df_13.groupby('Year_of_Release')  
 .count())  
graph = sns.jointplot  
(x=df_14.index, y=df_14['Platform']  
 ,color='r')
```



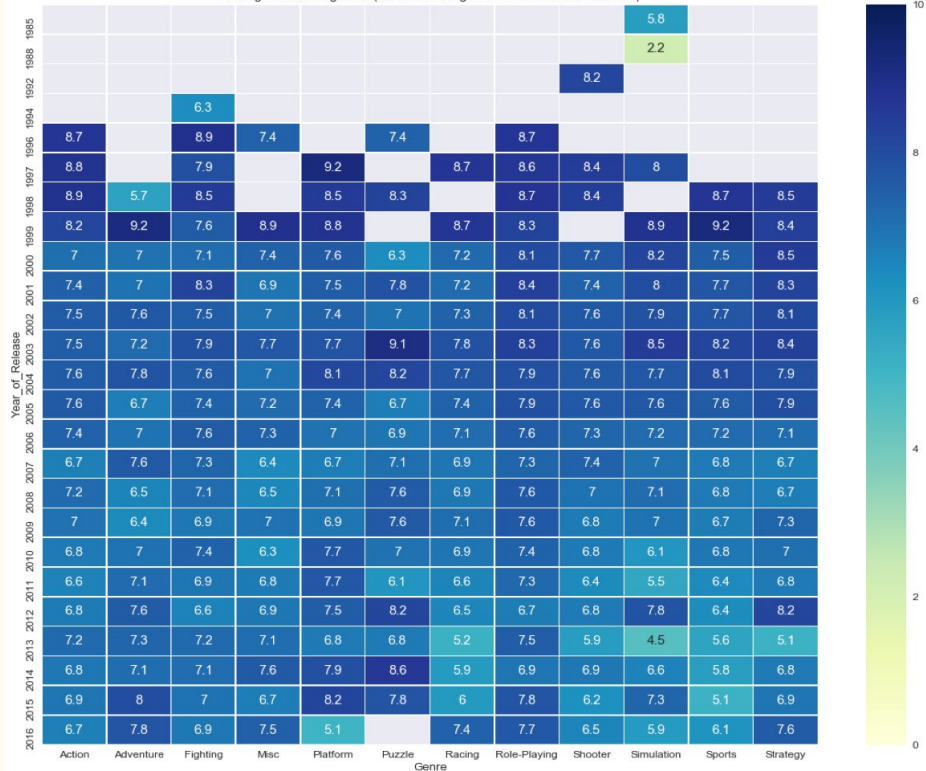
Top Genre

```
for i in range(len(platform_genres)):
    genre_plat = df.groupby(['Platform', 'Genre']).size().reset_index()
    genre_plat.rename(columns={0: 'count'}, inplace=True)
    genre_plat = genre_plat[genre_plat['Platform'] ==
                             platform_genres[i]].sort_values(
```

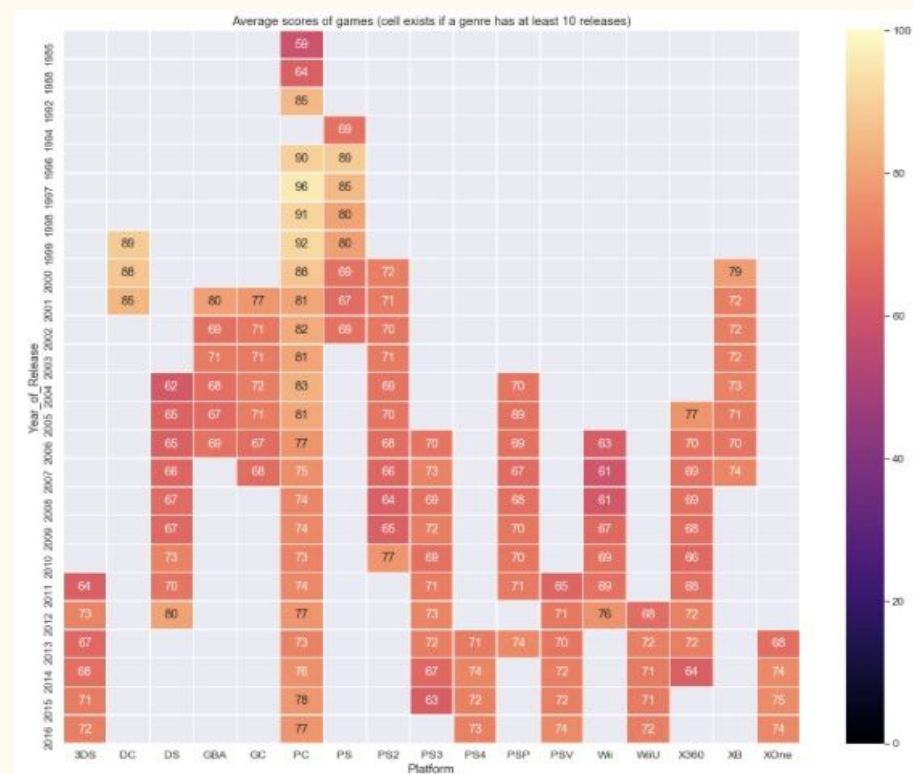
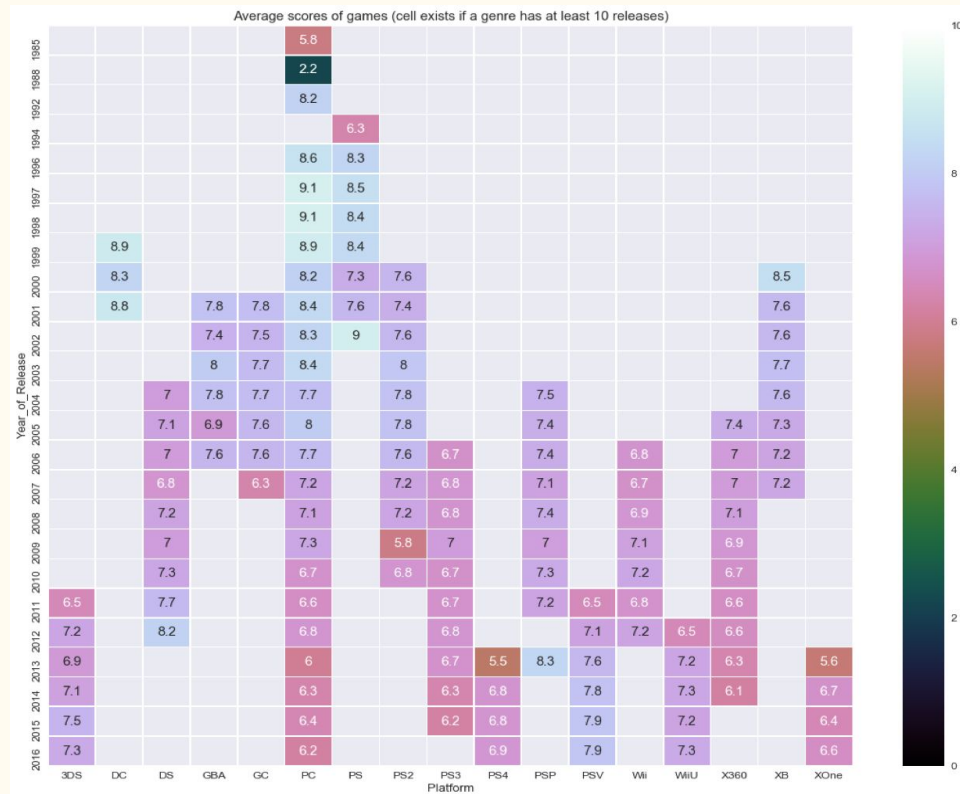
```
by='count', ascending=False)[:10]
plt.subplot(length_of_rows, length_of_columns, i+1)
sns.pointplot(y=genre_plat['Genre'], x=genre_plat['count'])
plt.xlabel(platform_genres[i])
```



GENRE WITH USER SCORE & CRITIC SCORE



PLATFORM WITH USER SCORE & CRITIC SCORE



Data Analysis & Gaming Industry

Video games are a billion-dollar business and have been for many years. In 2016 the video game market in United States valued at 17.68 billion U.S. dollars

Information-seeking and communication:

Using the internet to look for information, for example by search engines, provided by the seller or other parties.

Marketing presence:

For any company it is vital to provide a desirable image on the internet with a clear customer focus.

Online catalogue:

This stage is about providing the customer with the selection of products or services the company has to offer. It can either be a static website or a more sophisticated dynamic platform.

Thank You!

Questions?