In [1]:
```
import numpy as np
import pandas as pd
import os
for dirname, _, filenames in os.walk('/kaggle/input'):
    for filename in filenames:
        print(os.path.join(dirname, filename))
```

In [2]:
```
import plotly
import plotly.express as px
import plotly.graph_objects as go
import seaborn as sns
import matplotlib.pyplot as plt
from plotly import tools
from plotly.subplots import make_subplots
from plotly.offline import iplot, init_notebook_mode
init_notebook_mode()
```

In [3]:
```
df=pd.read_csv("Video_Games.csv")
```

In [4]:
```
df.head(7)
```

Out[4]:

	Name	Platform	Year_of_Release	Genre	Publisher	NA_Sales	EU_Sales	JP_Sales	Other_Sales	Global_Sales	Critic_Score	Critic_Count	User_Score	User_Count	Developer	Rating
0	Wii Sports	Wii	2006.0	Sports	Nintendo	41.36	28.96	3.77	8.45	82.53	76.0	51.0	8	322.0	Nintendo	E
1	Super Mario Bros.	NES	1985.0	Platform	Nintendo	29.08	3.58	6.81	0.77	40.24	NaN	NaN	NaN	NaN	NaN	NaN
2	Mario Kart Wii	Wii	2008.0	Racing	Nintendo	15.68	12.76	3.79	3.29	35.52	82.0	73.0	8.3	709.0	Nintendo	E
3	Wii Sports Resort	Wii	2009.0	Sports	Nintendo	15.61	10.93	3.28	2.95	32.77	80.0	73.0	8	192.0	Nintendo	E
4	Pokemon Red/Pokemon Blue	GB	1996.0	Role-Playing	Nintendo	11.27	8.89	10.22	1.00	31.37	NaN	NaN	NaN	NaN	NaN	NaN
5	Tetris	GB	1989.0	Puzzle	Nintendo	23.20	2.26	4.22	0.58	30.26	NaN	NaN	NaN	NaN	NaN	NaN
6	New Super Mario Bros.	DS	2006.0	Platform	Nintendo	11.28	9.14	6.50	2.88	29.80	89.0	65.0	8.5	431.0	Nintendo	E

In [5]:
```
df.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 16719 entries, 0 to 16718
Data columns (total 16 columns):
 #   Column           Non-Null Count  Dtype  
---  ------           --------------  -----  
 0   Name             16717 non-null  object 
 1   Platform         16719 non-null  object 
 2   Year_of_Release  16450 non-null  float64
 3   Genre            16717 non-null  object 
 4   Publisher        16665 non-null  object 
 5   NA_Sales         16719 non-null  float64
 6   EU_Sales         16719 non-null  float64
 7   JP_Sales         16719 non-null  float64
 8   Other_Sales      16719 non-null  float64
 9   Global_Sales     16719 non-null  float64
 10  Critic_Score     8137 non-null   float64
 11  Critic_Count     8137 non-null   float64
 12  User_Score       10015 non-null  object 
 13  User_Count       7590 non-null   float64
 14  Developer        10096 non-null  object 
 15  Rating           9950 non-null   object 
dtypes: float64(9), object(7)
memory usage: 2.0+ MB
```

In [6]:
```
df.isna().sum()
```

Out[6]:
```
Name                 2
Platform             0
Year_of_Release    269
Genre                2
Publisher           54
NA_Sales             0
EU_Sales             0
JP_Sales             0
Other_Sales          0
Global_Sales         0
Critic_Score      8582
Critic_Count      8582
User_Score        6704
User_Count        9129
Developer         6623
Rating            6769
dtype: int64
```

In [7]:
```
pd.unique(df['Platform'])
```

Out[7]:
```
array(['Wii', 'NES', 'GB', 'DS', 'X360', 'PS3', 'PS2', 'SNES', 'GBA',
       'PS4', '3DS', 'N64', 'PS', 'XB', 'PC', '2600', 'PSP', 'XOne',
       'WiiU', 'GC', 'GEN', 'DC', 'PSV', 'SAT', 'SCD', 'WS', 'NG', 'TG16',
       '3DO', 'GG', 'PCFX'], dtype=object)
```

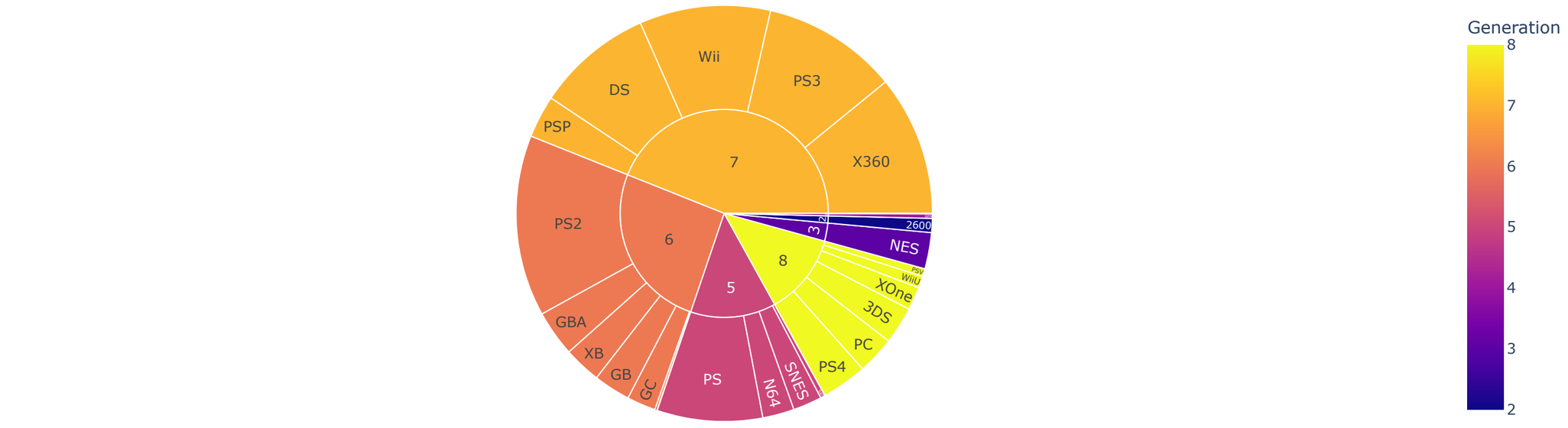
In [8]:
```
code={'Wii':7,'GEN':4,'NES':3,'GB':6,'DS':7,'X360':7,'PS3':7,'PS2':6,'SNES':5,'GBA':6,'PS4':8,'3DS':8,'N64':5,'PS':5,'XB':6,'PC':8,'2600':2,'PSP':7,'XOne':8,'WiiU':8,'GC':6,'DC':6,'PSV':8,'SAT':5,'SCD
df['Generation']=df['Platform'].map(code)
df
```

Out[8]:

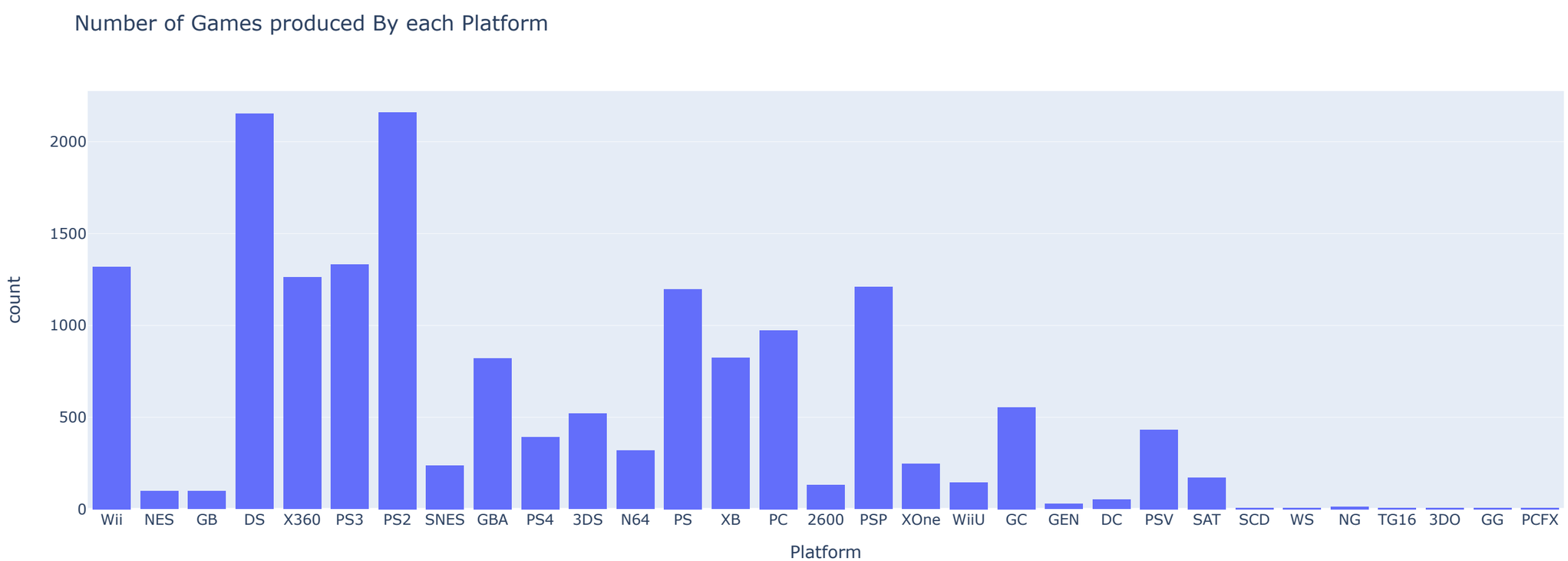
	Name	Platform	Year_of_Release	Genre	Publisher	NA_Sales	EU_Sales	JP_Sales	Other_Sales	Global_Sales	Critic_Score	Critic_Count	User_Score	User_Count	Developer	Rating	Generation
0	Wii Sports	Wii	2006.0	Sports	Nintendo	41.36	28.96	3.77	8.45	82.53	76.0	51.0	8	322.0	Nintendo	E	7
1	Super Mario Bros.	NES	1985.0	Platform	Nintendo	29.08	3.58	6.81	0.77	40.24	NaN	NaN	NaN	NaN	NaN	NaN	3
2	Mario Kart Wii	Wii	2008.0	Racing	Nintendo	15.68	12.76	3.79	3.29	35.52	82.0	73.0	8.3	709.0	Nintendo	E	7
3	Wii Sports Resort	Wii	2009.0	Sports	Nintendo	15.61	10.93	3.28	2.95	32.77	80.0	73.0	8	192.0	Nintendo	E	7
4	Pokemon Red/Pokemon Blue	GB	1996.0	Role-Playing	Nintendo	11.27	8.89	10.22	1.00	31.37	NaN	NaN	NaN	NaN	NaN	NaN	6
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
16714	Samurai Warriors: Sanada Maru	PS3	2016.0	Action	Tecmo Koei	0.00	0.00	0.01	0.00	0.01	NaN	NaN	NaN	NaN	NaN	NaN	7
16715	LMA Manager 2007	X360	2006.0	Sports	Codemasters	0.00	0.01	0.00	0.00	0.01	NaN	NaN	NaN	NaN	NaN	NaN	7
16716	Haitaka no Psychedelica	PSV	2016.0	Adventure	Idea Factory	0.00	0.00	0.01	0.00	0.01	NaN	NaN	NaN	NaN	NaN	NaN	8
16717	Spirits & Spells	GBA	2003.0	Platform	Wanadoo	0.01	0.00	0.00	0.00	0.01	NaN	NaN	NaN	NaN	NaN	NaN	6
16718	Winning Post 8 2016	PSV	2016.0	Simulation	Tecmo Koei	0.00	0.00	0.01	0.00	0.01	NaN	NaN	NaN	NaN	NaN	NaN	8

16719 rows × 17 columns

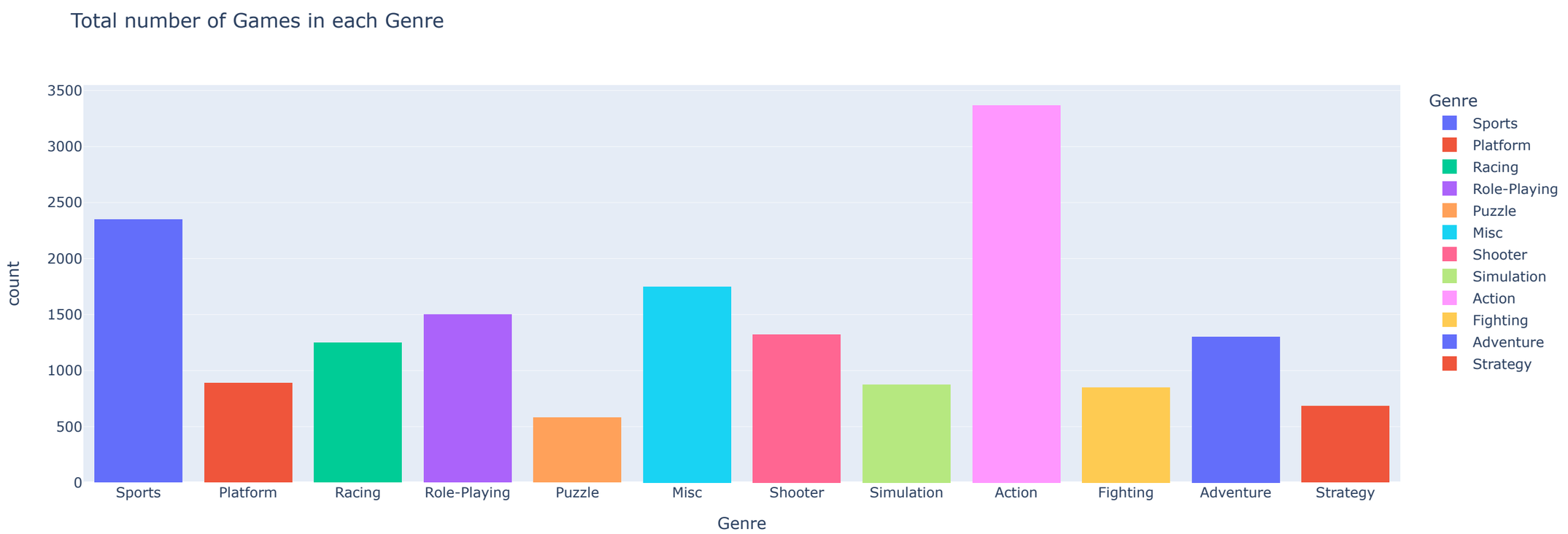
In [9]:
```
fig = px.sunburst(df, path=['Generation', 'Platform'], values='Global_Sales',
                  color='Generation', title = 'Global Sales By Console generations')
fig.show()
```



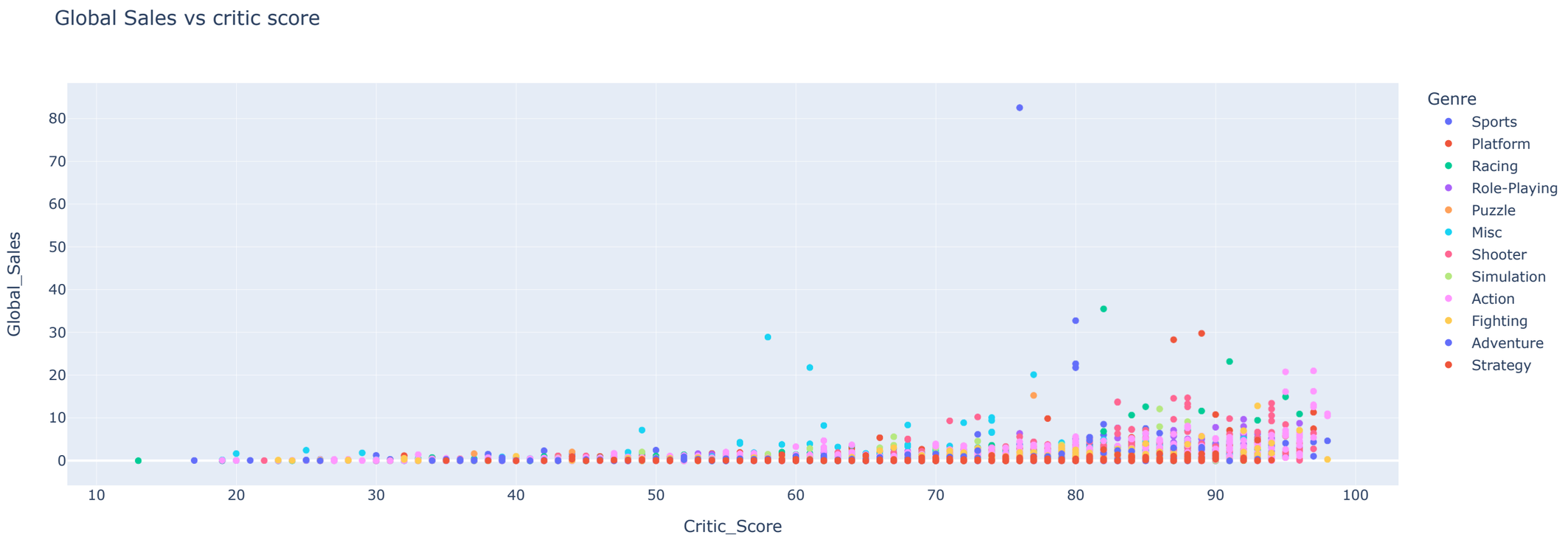
In [10]:
```
fig = px.histogram(df, x="Platform", title = 'Number of Games produced By each Platform')
fig.show()
```



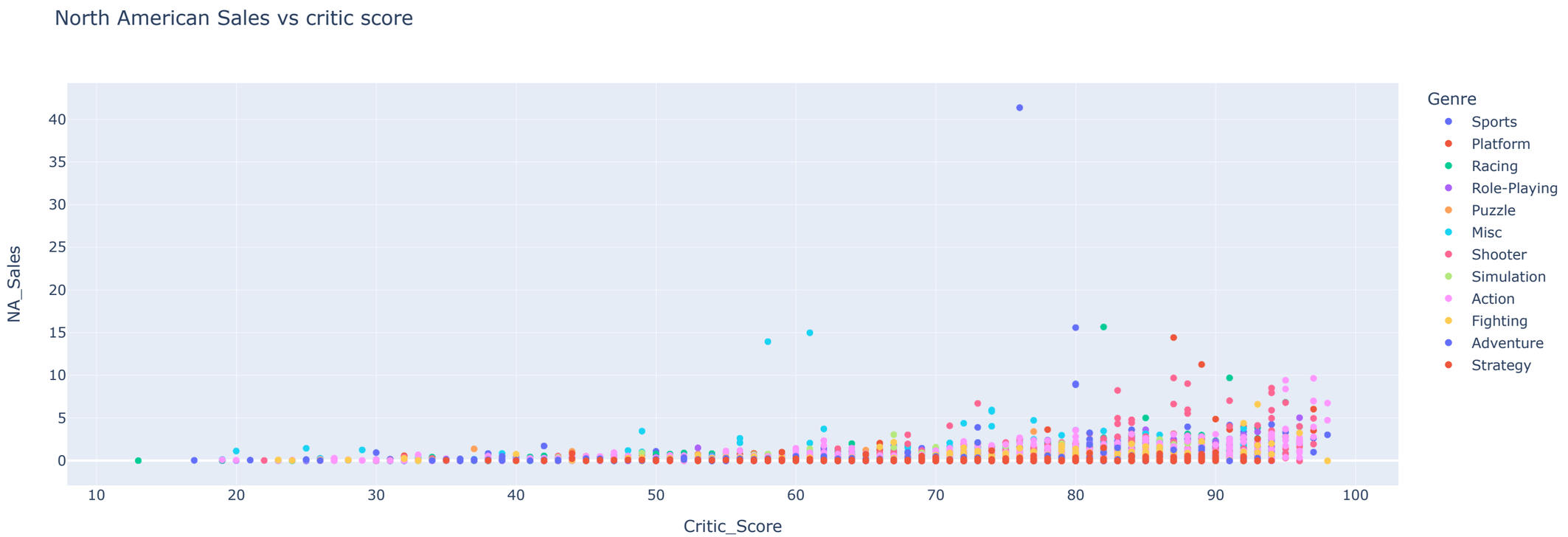
In [11]:
```
fig = px.histogram(df, x="Genre", color = 'Genre', title = 'Total number of Games in each Genre')
fig.show()
```



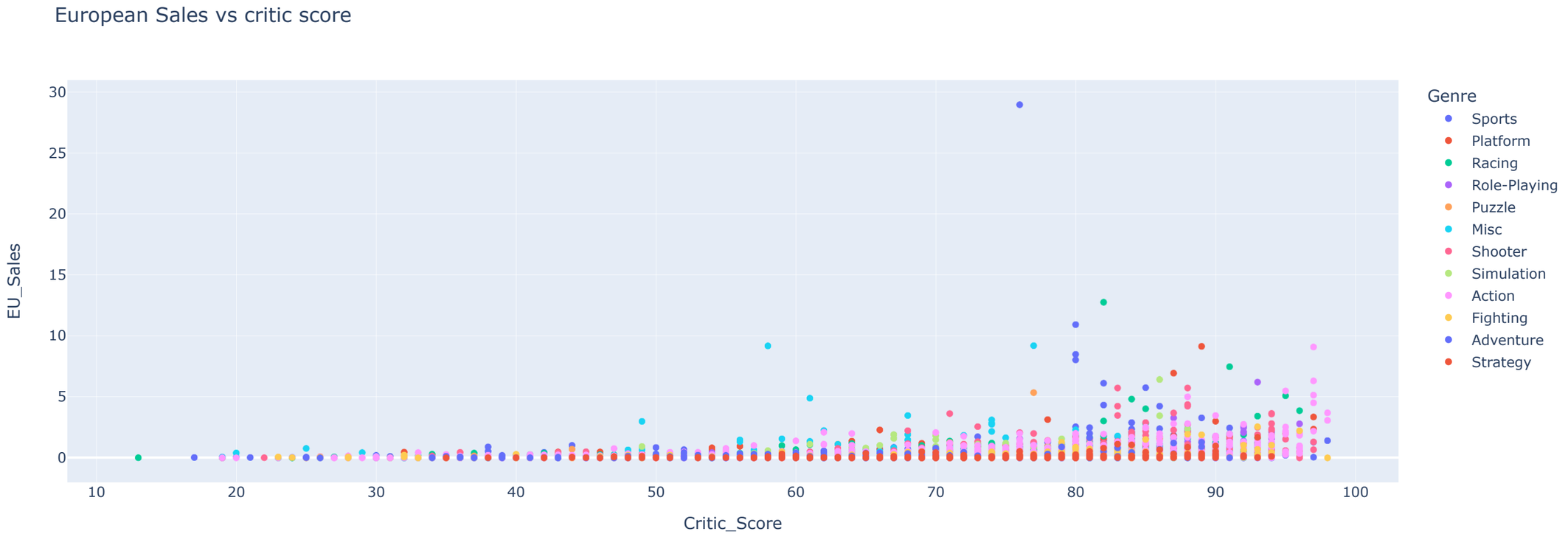
In [12]:
```
fig = px.scatter(df, x="Critic_Score", y="Global_Sales", color="Genre", hover_name = 'Name', title = 'Global Sales vs critic score')
fig.show()
```



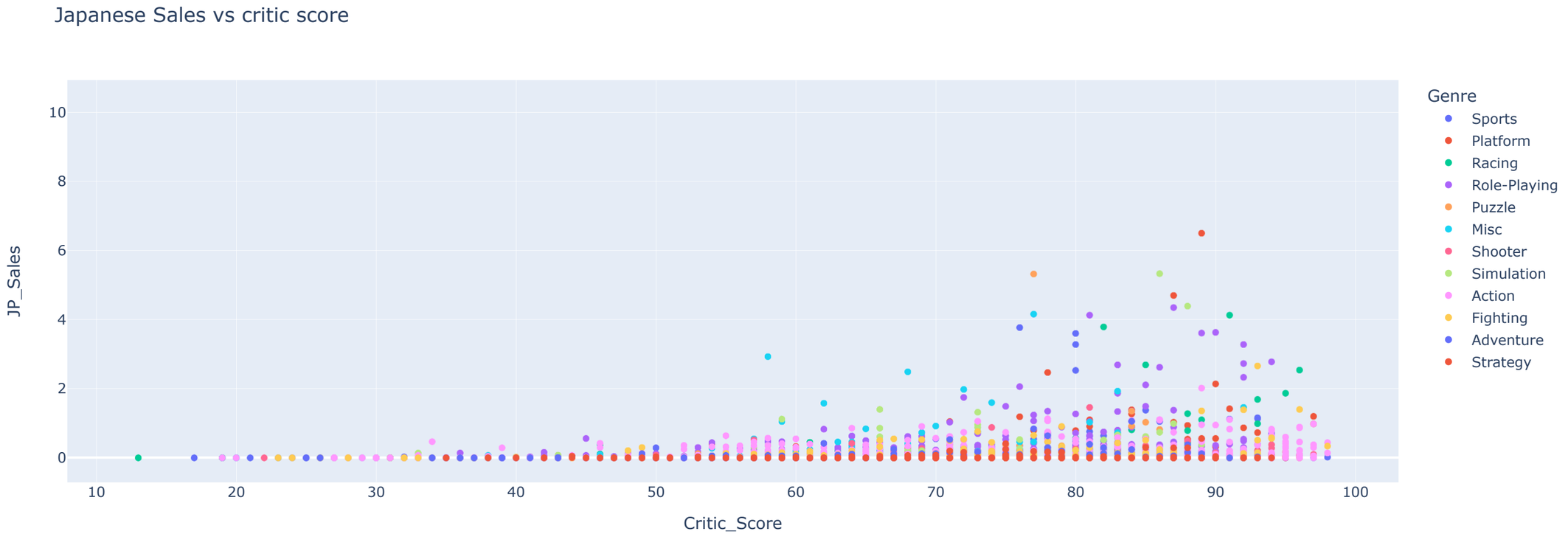
In [13]:
```
fig = px.scatter(df, x="Critic_Score", y="NA_Sales", color="Genre", hover_name = 'Name', title = 'North American Sales vs critic score')
fig.show()
```



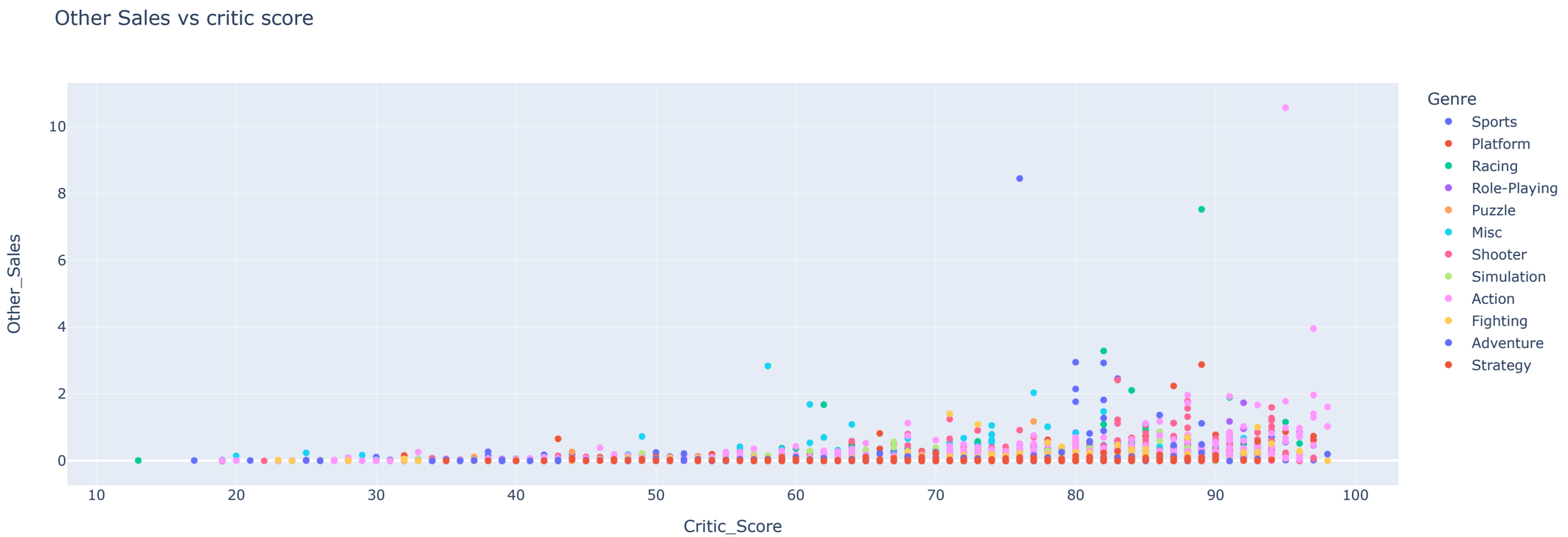
In [14]:
```
fig = px.scatter(df, x="Critic_Score", y="EU_Sales", color="Genre", hover_name = 'Name', title = 'European Sales vs critic score')
fig.show()
```



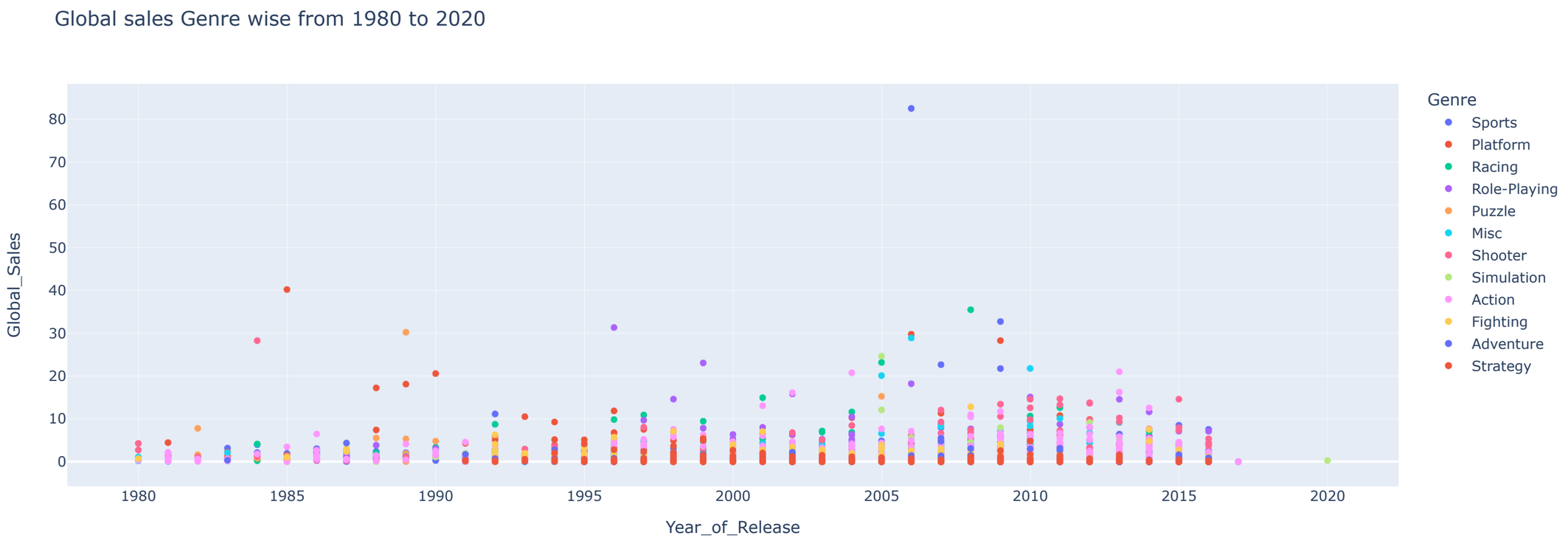
In [15]:
```
fig = px.scatter(df, x="Critic_Score", y="JP_Sales", color="Genre", hover_name = 'Name', title = 'Japanese Sales vs critic score')
fig.show()
```



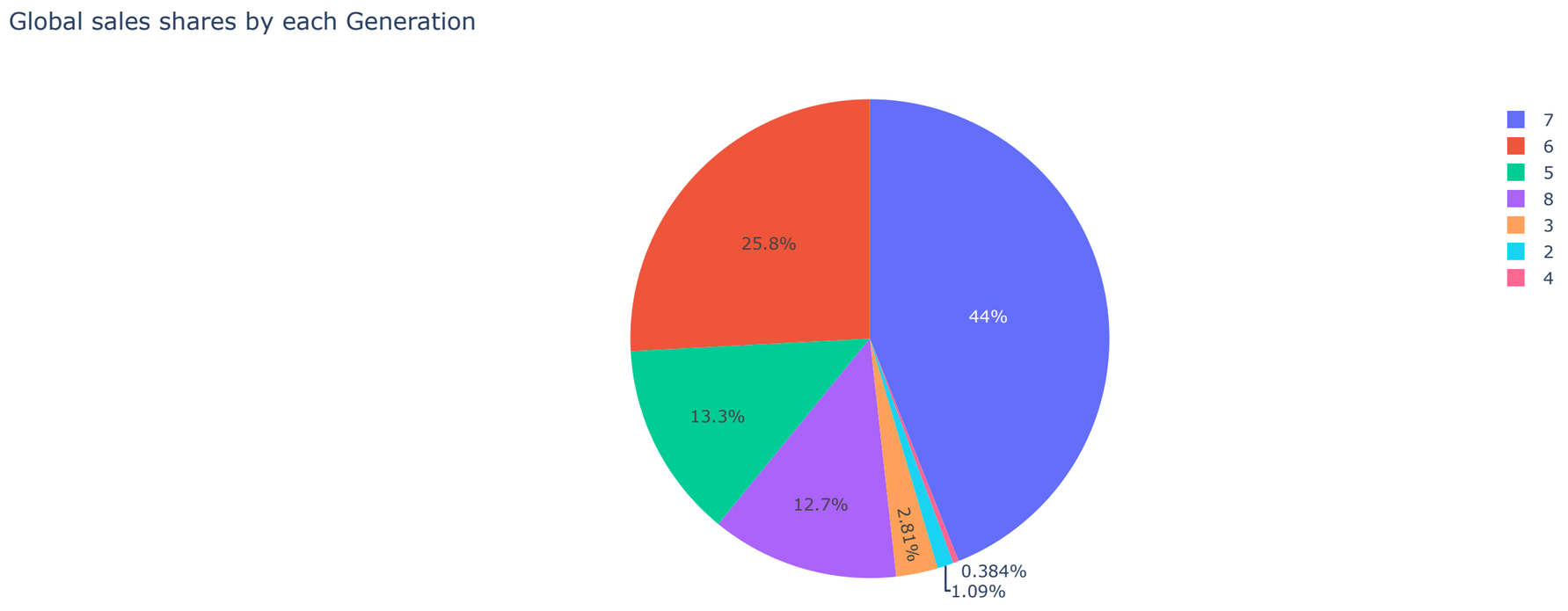
In [16]:
```
fig = px.scatter(df, x="Critic_Score", y="Other_Sales", color="Genre", hover_name = 'Name', title = 'Other Sales vs critic score')
fig.show()
```



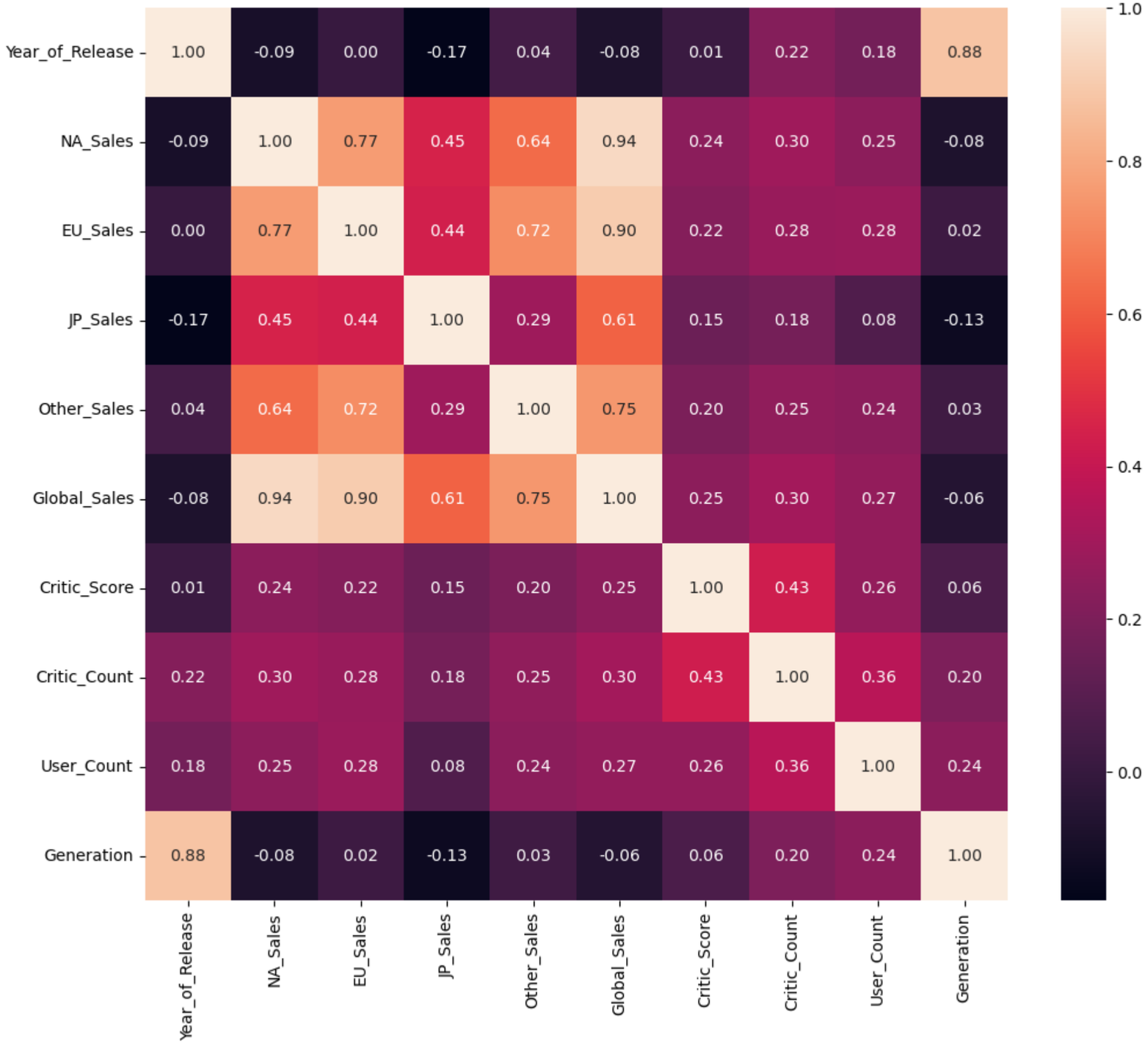
In [17]:
```
fig = px.scatter(df, x="Year_of_Release", y="Global_Sales", color="Genre", hover_name = 'Name', title = 'Global sales Genre wise from 1980 to 2020')
fig.show()
```



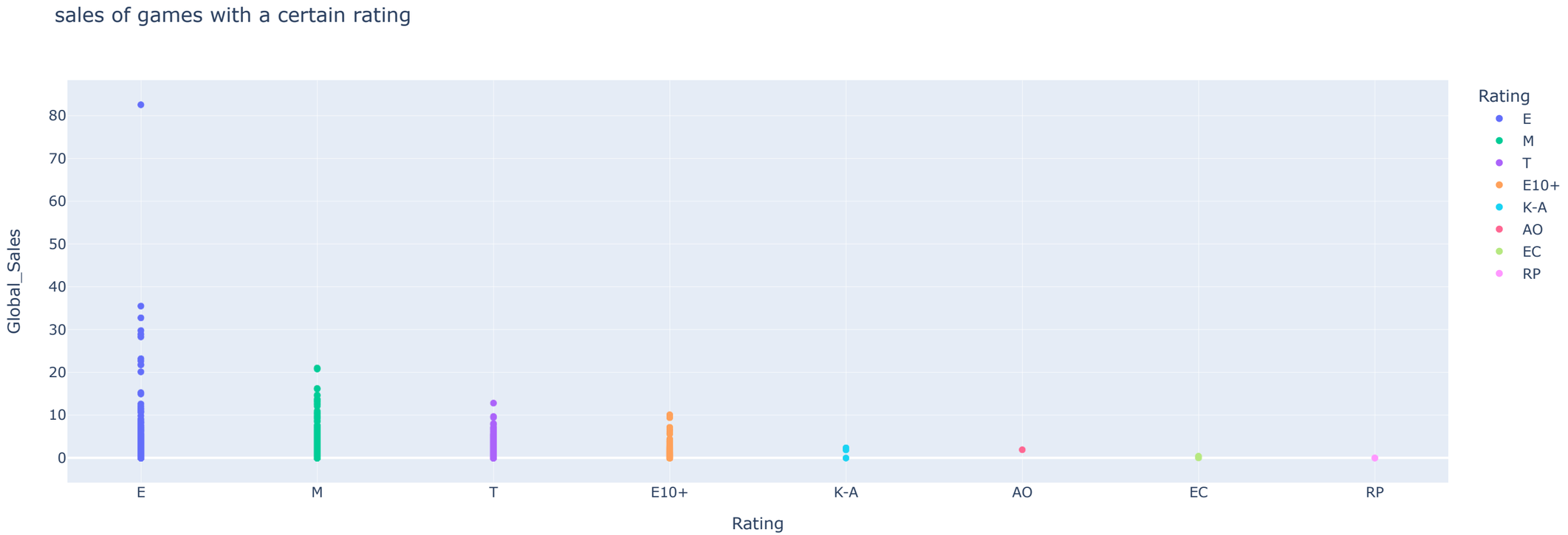
In [18]:
```
fig = px.pie(df, values='Global_Sales', names='Generation', title='Global sales shares by each Generation')
fig.show()
```



In [19]:
```
plt.figure(figsize=(12,10))
sns.heatmap(df.corr(), annot = True, fmt= '.2f')
plt.show()
```



In [20]:
```
fig = px.scatter(df, x="Rating", y="Global_Sales", color="Rating", hover_name = 'Name', title = 'sales of games with a certain rating')
fig.show()
```


sales of games with a certain rating
Global_Sales
0
10
20
30
40
50
60
70
80
E
M
T
E10+
K-A
AO
EC
RP
Rating
Rating
E
M
T
E10+
K-A
AO
EC
RP

In [ ]: