In [2]:
```
import pandas as pd
import matplotlib.pyplot as plt
import datetime as dt
import seaborn as sns
import numpy as np
```

In [3]:
```
df=pd.read_csv(r"C:\Users\berid\OneDrive\Desktop\mydata\vgsales.csv")
```

In [4]:
```
df.columns=df.columns.str.strip().str.lower().str.replace(" ","")
```

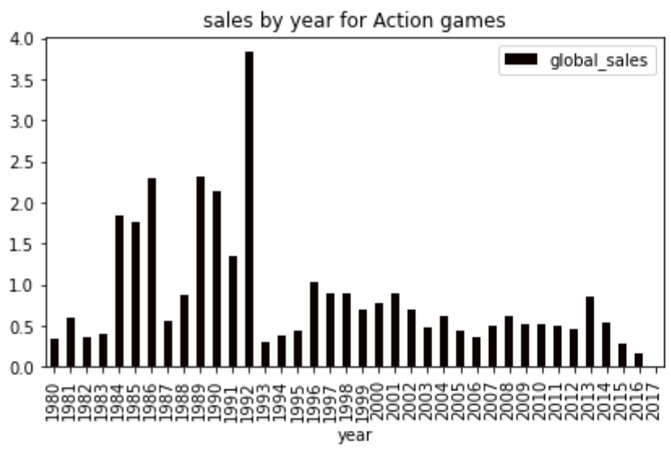
In [5]:
```
df=df.loc[:,~df.columns.isin(["rank"])]
df
```

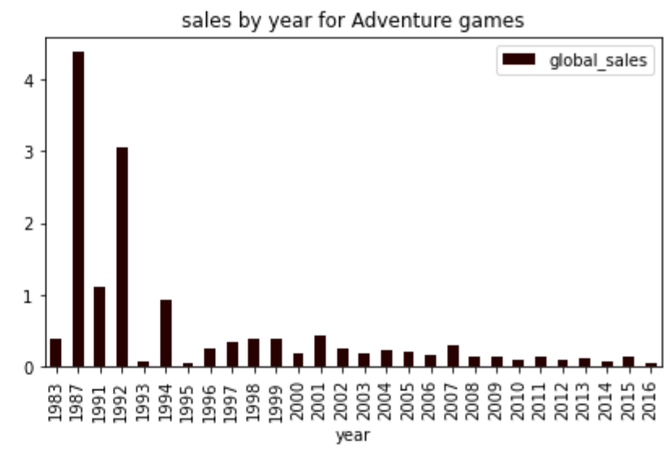
Out[5]:

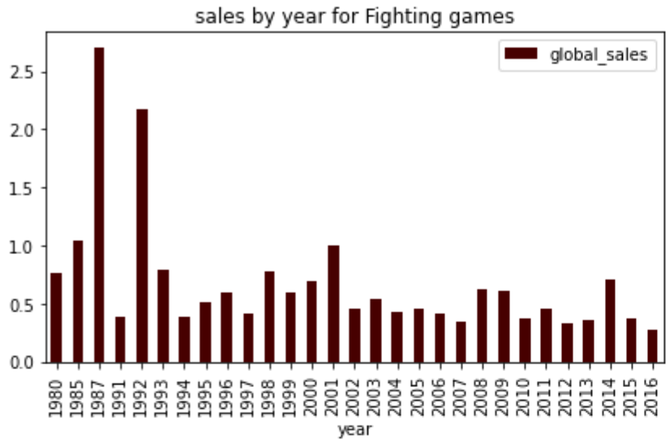
	name	platform	year	genre	publisher	na_sales	eu_sales	jp_sales	other_sales	global_sales
0	Wii Sports	Wii	2006.0	Sports	Nintendo	41.49	29.02	3.77	8.46	82.74
1	Super Mario Bros.	NES	1985.0	Platform	Nintendo	29.08	3.58	6.81	0.77	40.24
2	Mario Kart Wii	Wii	2008.0	Racing	Nintendo	15.85	12.88	3.79	3.31	35.82
3	Wii Sports Resort	Wii	2009.0	Sports	Nintendo	15.75	11.01	3.28	2.96	33.00
4	Pokemon Red/Pokemon Blue	GB	1996.0	Role-Playing	Nintendo	11.27	8.89	10.22	1.00	31.37
...	...	...	...	...	...	...	...	...	...	...
16593	Woody Woodpecker in Crazy Castle 5	GBA	2002.0	Platform	Kemco	0.01	0.00	0.00	0.00	0.01
16594	Men in Black II: Alien Escape	GC	2003.0	Shooter	Infogrames	0.01	0.00	0.00	0.00	0.01
16595	SCORE International Baja 1000: The Official Game	PS2	2008.0	Racing	Activision	0.00	0.00	0.00	0.00	0.01
16596	Know How 2	DS	2010.0	Puzzle	7G//AMES	0.00	0.01	0.00	0.00	0.01
16597	Spirits & Spells	GBA	2003.0	Platform	Wanadoo	0.01	0.00	0.00	0.00	0.01

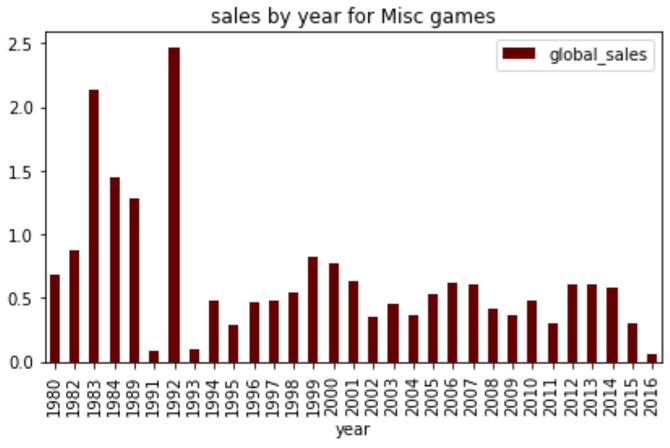
16598 rows × 10 columns

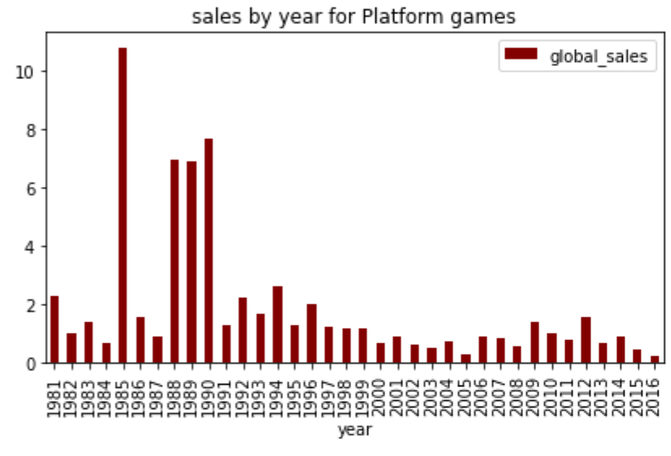
In [6]:
```
cmap=plt.get_cmap("hot")
colors=list(cmap(np.linspace(0,0.5,len(df.genre.unique()))))
fig,axes=plt.subplots(6,2,figsize=(15,30))

for i,ax,c in zip(sorted(df.genre.unique()),axes.ravel(),colors):
    g=df[df.genre==i].groupby("year")["global_sales"].mean().reset_index().sort_values("year")

    g.year=g.year.astype(str)
    g["year"]=g["year"].apply(lambda x:x.split(".")[0])
    g.plot(kind="bar",ax=ax,x="year",y="global_sales",title="sales by year for "+str(i)+" games",color=c,)
    plt.subplots_adjust(hspace=0.4)
plt.show()
```

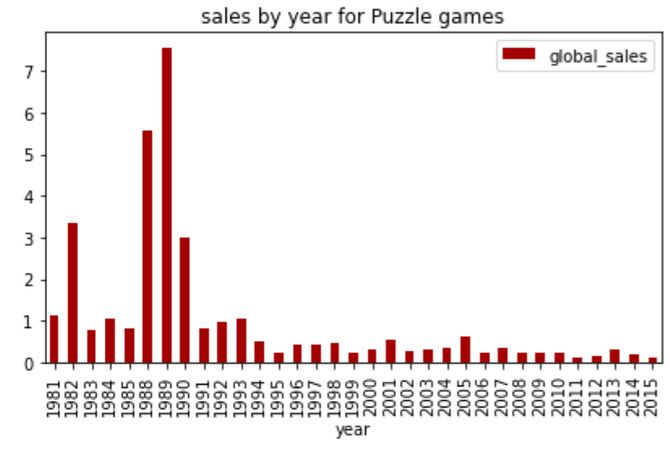


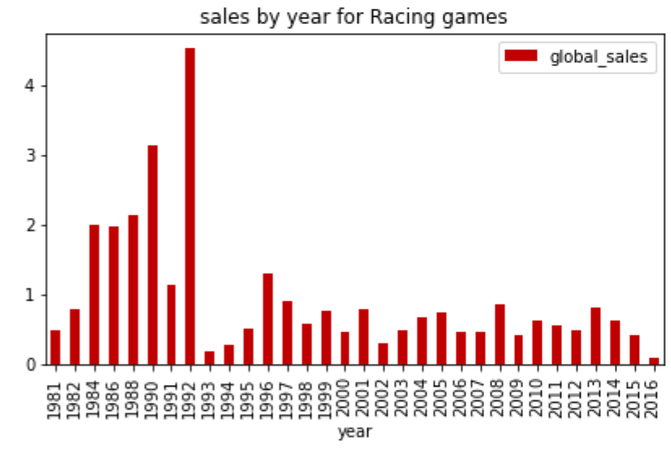


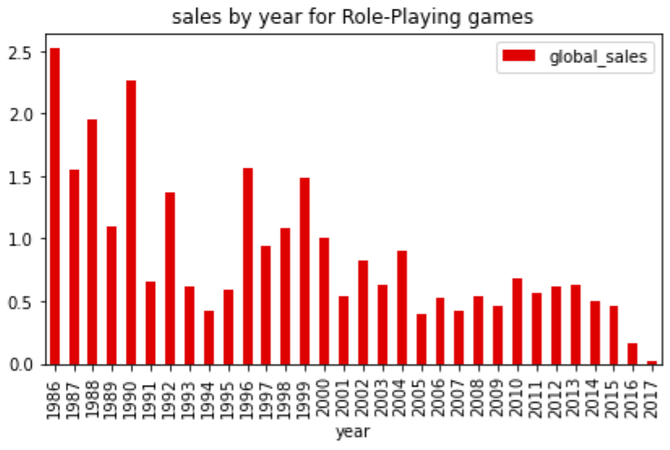


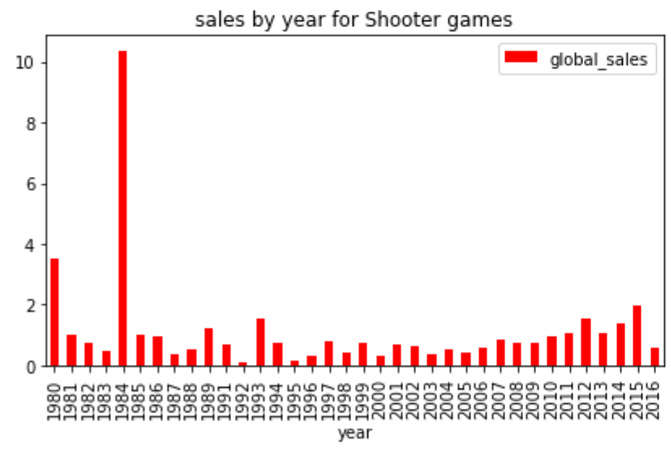


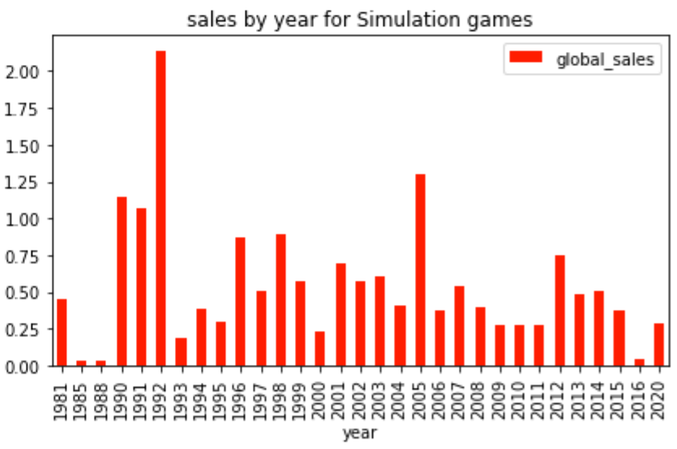


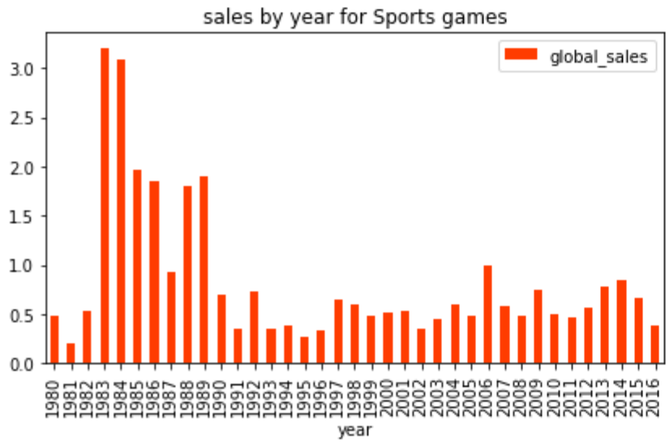




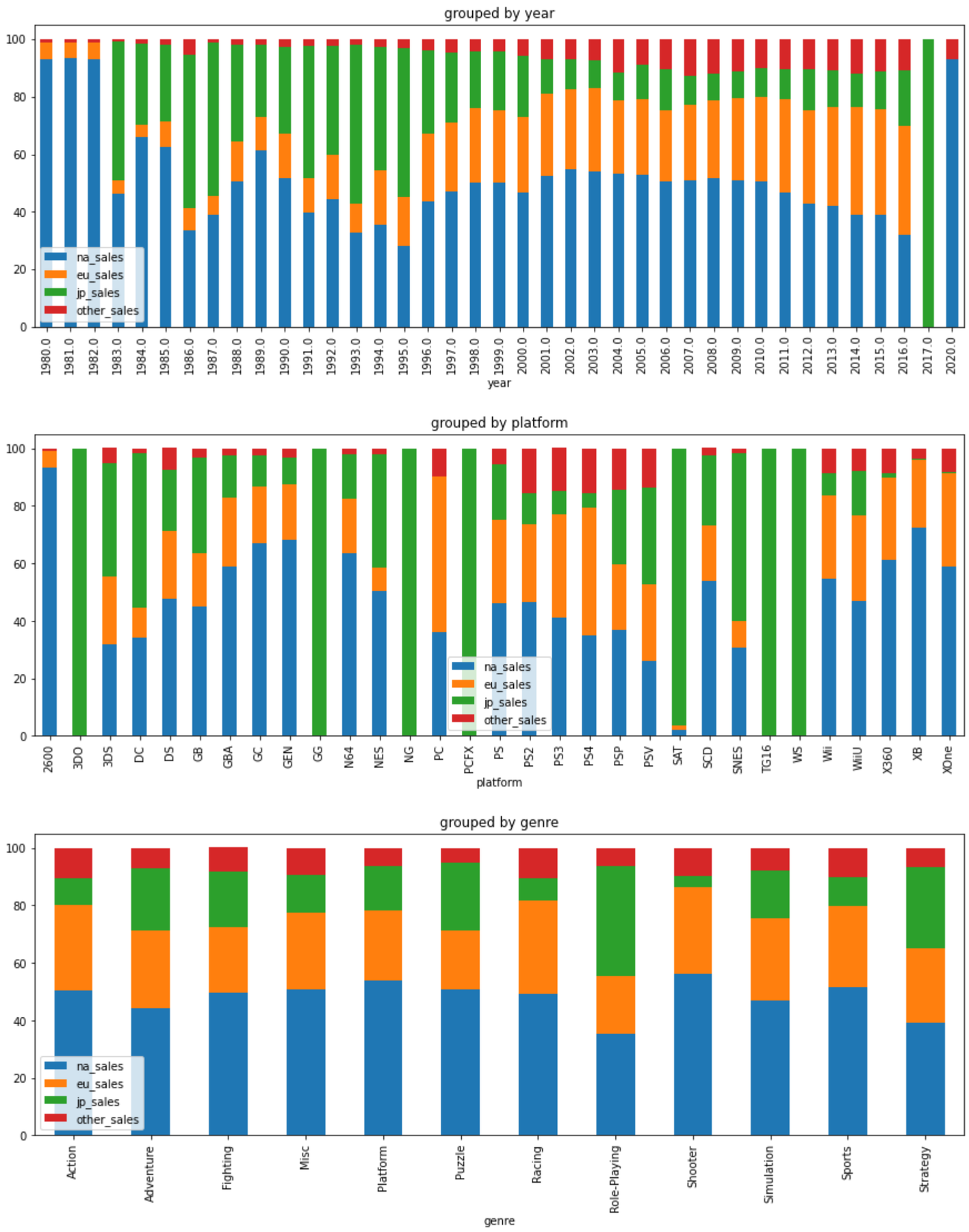








In [35]:
```
for i in ["year","platform","genre"]:
    g=df.groupby(i).agg({"na_sales":"sum","eu_sales":"sum","jp_sales":"sum","other_sales":"sum"}).reset_index()
    g.iloc[:,1:]=(g.iloc[:,1:].div(g.iloc[:,1:].sum(axis=1),axis=0)*100).round(1)
    g.plot(kind="bar",x=i,y=g.columns[1:],figsize=(15,5),stacked=True,title="grouped by "+i)
    plt.show()
```



In [ ]: