

In [83]:

```
#=====1=====
import pandas as pd
import matplotlib.pyplot as plt

col_list = ["month_number", "total_profit"]
df=pd.read_csv("company_sales_data.csv",usecols=col_list)
x=df["month_number"]
y=df["total_profit"]
plt.plot(x,y)
plt.xticks(x)
plt.ylabel("Total Profit")
plt.xlabel("Month number")
plt.title("Company profit per month")
plt.show()
```



In [84]:

```

#=====2=====
import pandas as pd
import matplotlib.pyplot as plt

col_list = ["month_number", "total_units"]
df=pd.read_csv("company_sales_data.csv",usecols=col_list)
x=df["month_number"]
y=df["total_units"]
plt.plot(x,y,'r--',linewidth=3,marker='o',markeredgecolor='black',markerfacecolor='black',1
plt.legend(loc="lower right")
plt.xticks(x)
plt.title("Company sales data of last year")
plt.ylabel("Total Units")
plt.xlabel("Month number")
plt.show()

```



In [85]:

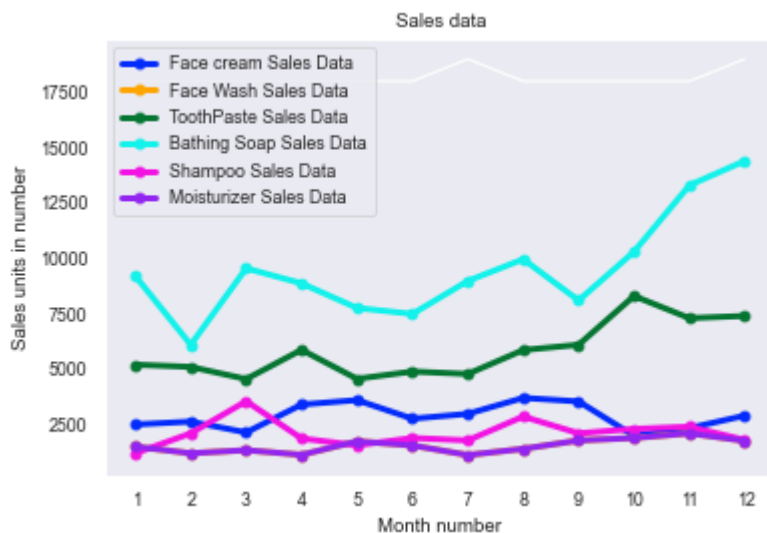
```

#=====3=====
import pandas as pd
import matplotlib.pyplot as plt

col_list = ["month_number", "facecream", "facewash", "toothpaste", "bathingsoap", "shampoo", "moisturizer"]
df=pd.read_csv("company_sales_data.csv",usecols=col_list)
#-----
x=df["month_number"]
y1=df["facecream"]
y2=df["facewash"]
y3=df["toothpaste"]
y4=df["bathingsoap"]
y5=df["shampoo"]
y6=df["moisturizer"]
#-----
plt.plot(x,y1,color="#032cfc",linewidth=3,marker='o',markerfacecolor='#032cfc',label="Face cream Sales Data")
plt.plot(x,y2,color="orange",linewidth=3,marker='o',markerfacecolor='orange',label="Face Wash Sales Data")
plt.plot(x,y3,color="#057532",linewidth=3,marker='o',markerfacecolor='#057532',label="Tooth Paste Sales Data")
plt.plot(x,y4,color="#13f2eb",linewidth=3,marker='o',markerfacecolor='#13f2eb',label="Bathing Soap Sales Data")
plt.plot(x,y5,color="#f213e3",linewidth=3,marker='o',markerfacecolor='#f213e3',label="Shampoo Sales Data")
plt.plot(x,y6,color="#9226f0",linewidth=3,marker='o',markerfacecolor='#9226f0',label="Moisturizer Sales Data")
plt.plot(x,[18000,18000,18000,18000,18000,18000,19000,18000,18000,18000,18000,19000],color="black",label="Total Sales")
plt.xticks(x)
#-----
plt.legend(loc="upper left")
plt.title("Sales data")
plt.ylabel("Sales units in number")
plt.xlabel("Month number")

plt.show()

```



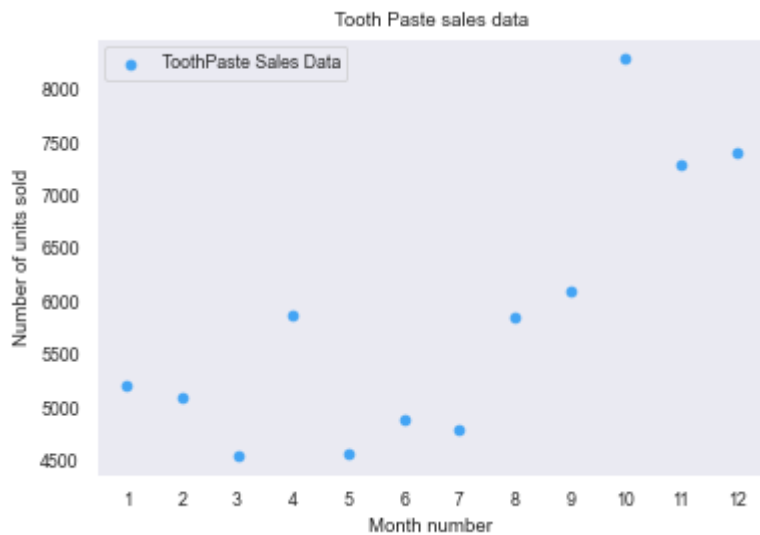
In [86]:

```

#=====4=====
import pandas as pd
import matplotlib.pyplot as plt

col_list = ["month_number", "facecream", "facewash", "toothpaste", "bathingsoap", "shampoo", "mo
df=pd.read_csv("company_sales_data.csv", usecols=col_list)
#-----
y=df["toothpaste"]
x=df["month_number"]
#-----
plt.scatter(x,y,color="#42a4f5",label="ToothPaste Sales Data")
plt.xticks(x)
#-----
plt.legend(loc="upper left")
plt.title("Tooth Paste sales data")
plt.ylabel("Number of units sold")
plt.xlabel("Month number")
plt.show()

```



In [48]:

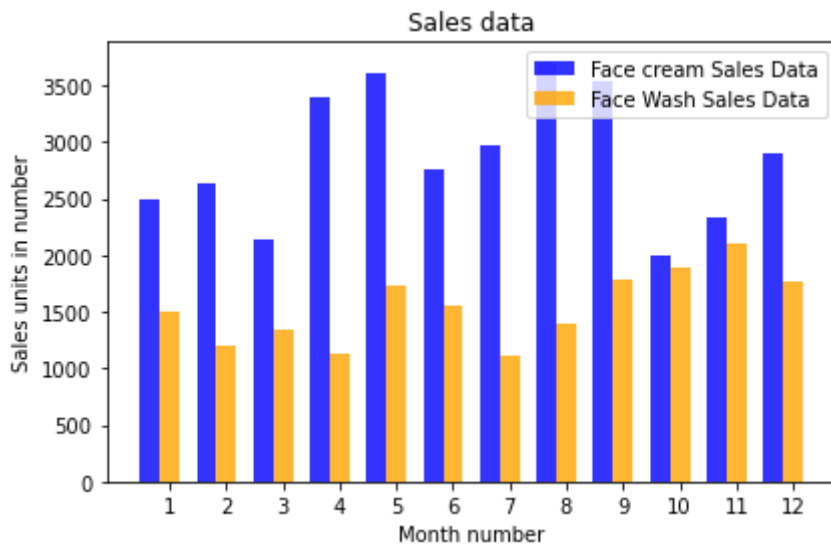
```

#=====5=====
import pandas as pd
import matplotlib.pyplot as plt
import numpy as np

col_list = ["month_number", "facecream", "facewash"]
df=pd.read_csv("company_sales_data.csv",usecols=col_list)
#-----
width = 0.35
opacity = 0.8
index = np.arange(len(df["month_number"]))
y1=df["facecream"]
y2=df["facewash"]
#-----
fig, ax = plt.subplots()
rects1 = plt.bar(index, y1,width,alpha=opacity,color='b',label='Face cream Sales Data')
rects2 = plt.bar(index +width, y2,width,alpha=opacity,color='orange',label='Face Wash Sales Data')
#-----
ax.set_title("Sales data")
ax.set_ylabel("Sales units in number")
ax.set_xlabel("Month number")
plt.xticks(index + width, df["month_number"])
ax.set_xticklabels(df["month_number"])
plt.legend()

plt.tight_layout()
plt.show()

```



In [53]:

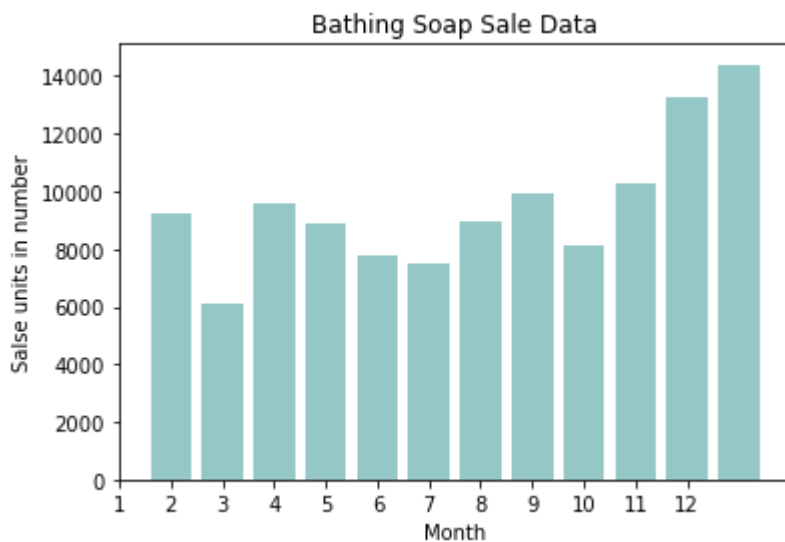
```

#=====6=====
import pandas as pd
import matplotlib.pyplot as plt
import numpy as np

col_list = ["month_number", "bathingsoap"]
df=pd.read_csv("company_sales_data.csv",usecols=col_list)
#-----
x=df["month_number"]
y=df["bathingsoap"]
#-----
index = np.arange(len(df["month_number"]))
plt.bar(x, y, align='center',color="#2B908F", alpha=0.5)
plt.xticks(index, x)
plt.ylabel('Salse units in number')
plt.xlabel('Month')
plt.title('Bathing Soap Sale Data')

plt.show()

```



In [88]:

```

#=====7=====
import pandas as pd
import matplotlib.pyplot as plt
import numpy as np

col_list = ["total_profit"]
df=pd.read_csv("company_sales_data.csv",usecols=col_list)
#-----
y=df["total_profit"]
plt.hist(y,range=(y.min(),y.max()), label="Profit data",)
#-----
plt.ylabel('Actual profit in dolar')
plt.xlabel('Profit range in dolar')
plt.title('Profit data')
plt.legend()
plt.show()

```



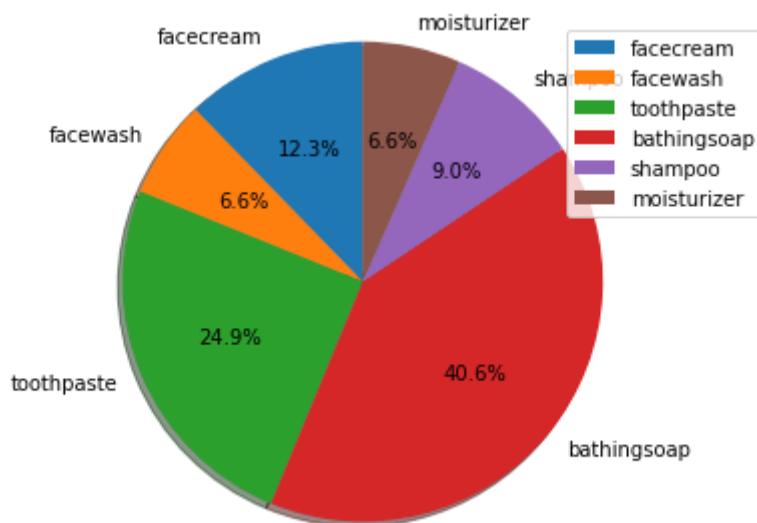
In [81]:

```

#=====8=====
import pandas as pd
import matplotlib.pyplot as plt
import numpy as np

label = ["facecream", "facewash", "toothpaste", "bathingsoap", "shampoo", "moisturizer", "total_u
df=pd.read_csv("company_sales_data.csv", usecols=label)
#-----
y1=df["facecream"].sum()
y2=df["facewash"].sum()
y3=df["toothpaste"].sum()
y4=df["bathingsoap"].sum()
y5=df["shampoo"].sum()
y6=df["moisturizer"].sum()
totalUnits=df["total_units"].sum()
label.remove("total_units")
#-----
sizes=[(y1/totalUnits)*100, (y2/totalUnits)*100, (y3/totalUnits)*100, (y4/totalUnits)*100, (y5/
fig, ax = plt.subplots()
ax.pie(sizes, labels=labels, autopct='%1.1f%%', shadow=True, startangle=90)
plt.legend()
ax.axis('equal')
plt.tight_layout()
plt.show()

```



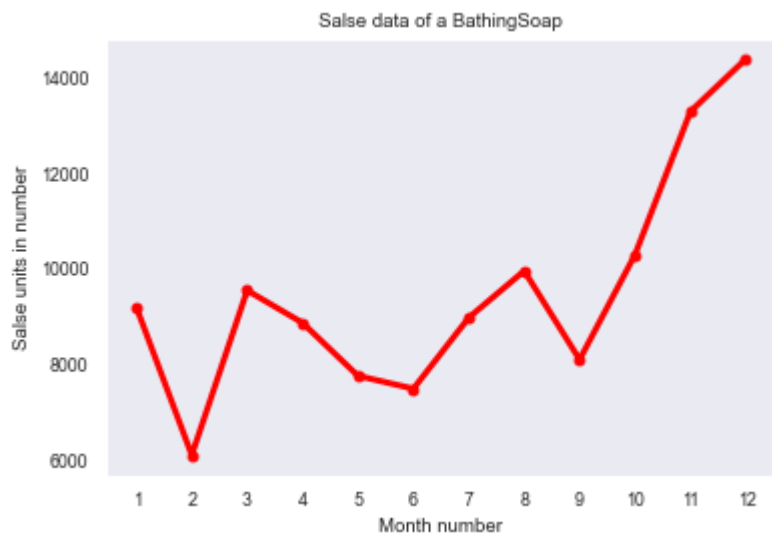


#=====9=====

```
labels = ["month_number", "facewash", "bathingsoap"]
df=pd.read_csv("company_sales_data.csv",usecols=labels)
#-----
fig,a = plt.subplots()
a.plot(df["month_number"],df["facewash"],linewidth=3,marker='o')
fige,b = plt.subplots()
a.set_ylabel('Salse units in number')
a.set_xlabel('Month number')
a.set_title('Salse data of a facewash')

b.plot(df["month_number"],df["bathingsoap"],linewidth=3,marker='o',color='red',markeredgeco
b.set_ylabel('Salse units in number')
b.set_xlabel('Month number')
b.set_title('Salse data of a BathingSoap')
plt.xticks(df['month_number'])
plt.show()
```





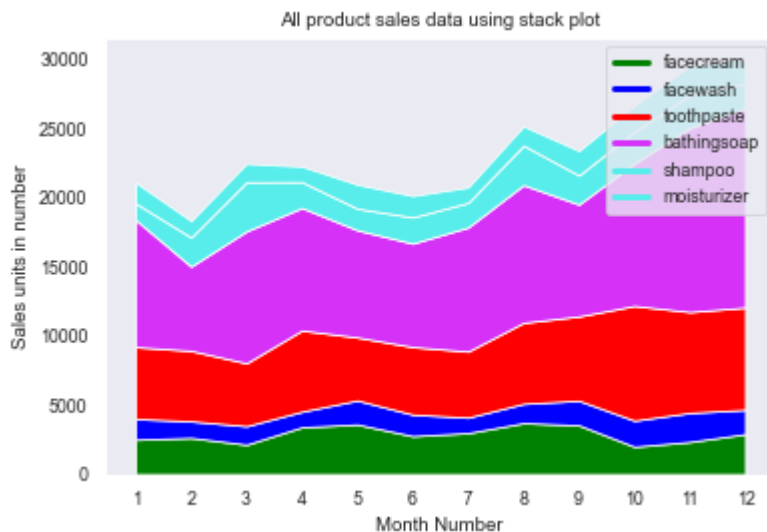
In [91]:

```

#=====10=====
import pandas as pd
import matplotlib.pyplot as plt

col_list = ["month_number", "facecream", "facewash", "toothpaste", "bathingsoap", "shampoo", "mo
df=pd.read_csv("company_sales_data.csv", usecols=col_list)
#-----
x=df["month_number"]
y1=df["facecream"]
y2=df["facewash"]
y3=df["toothpaste"]
y4=df["bathingsoap"]
y5=df["shampoo"]
y6=df["moisturizer"]
#-----
plt.plot([],[],color='green', label="facecream", linewidth=3)
plt.plot([],[],color='blue', label="facewash", linewidth=3)
plt.plot([],[],color='red', label="toothpaste", linewidth=3)
plt.plot([],[],color='#d631f7', label="bathingsoap", linewidth=3)
plt.plot([],[],color='#58edeb', label="shampoo", linewidth=3)
plt.plot([],[],color='#58edeb', label="moisturizer", linewidth=3)
#-----
plt.stackplot(x, y1, y2, y3, y4,y5,y6, colors=['green','blue','red','#d631f7','#58edeb','#5
#-----
plt.xticks(x)
plt.xlabel('Month Number')
plt.ylabel('Sales units in number')
plt.title('All product sales data using stack plot')
plt.legend()
plt.show()

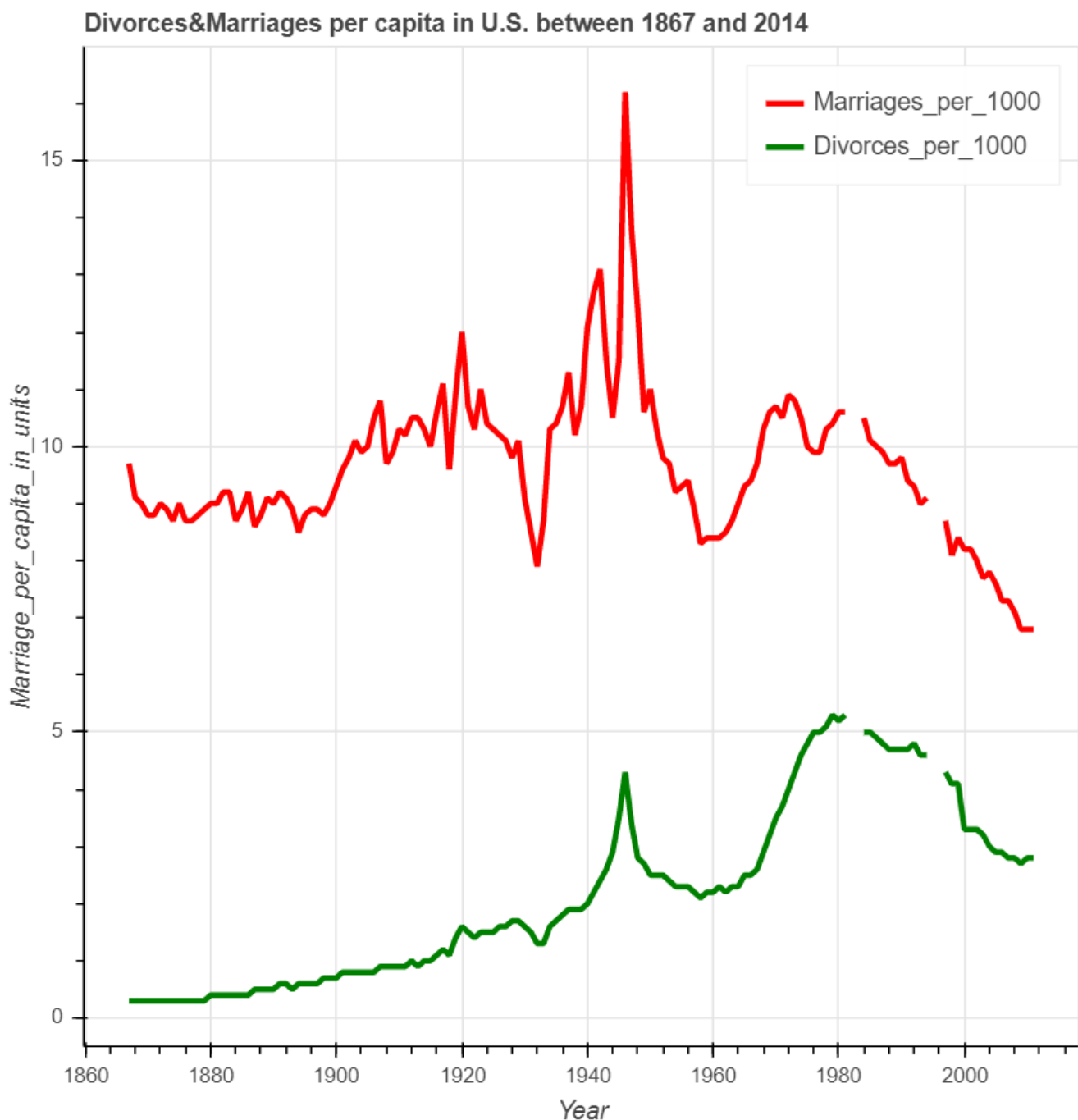
```



In [65]:

```
#=====11=====
import pandas as pd
import matplotlib.pyplot as plt
from bokeh.plotting import figure, show

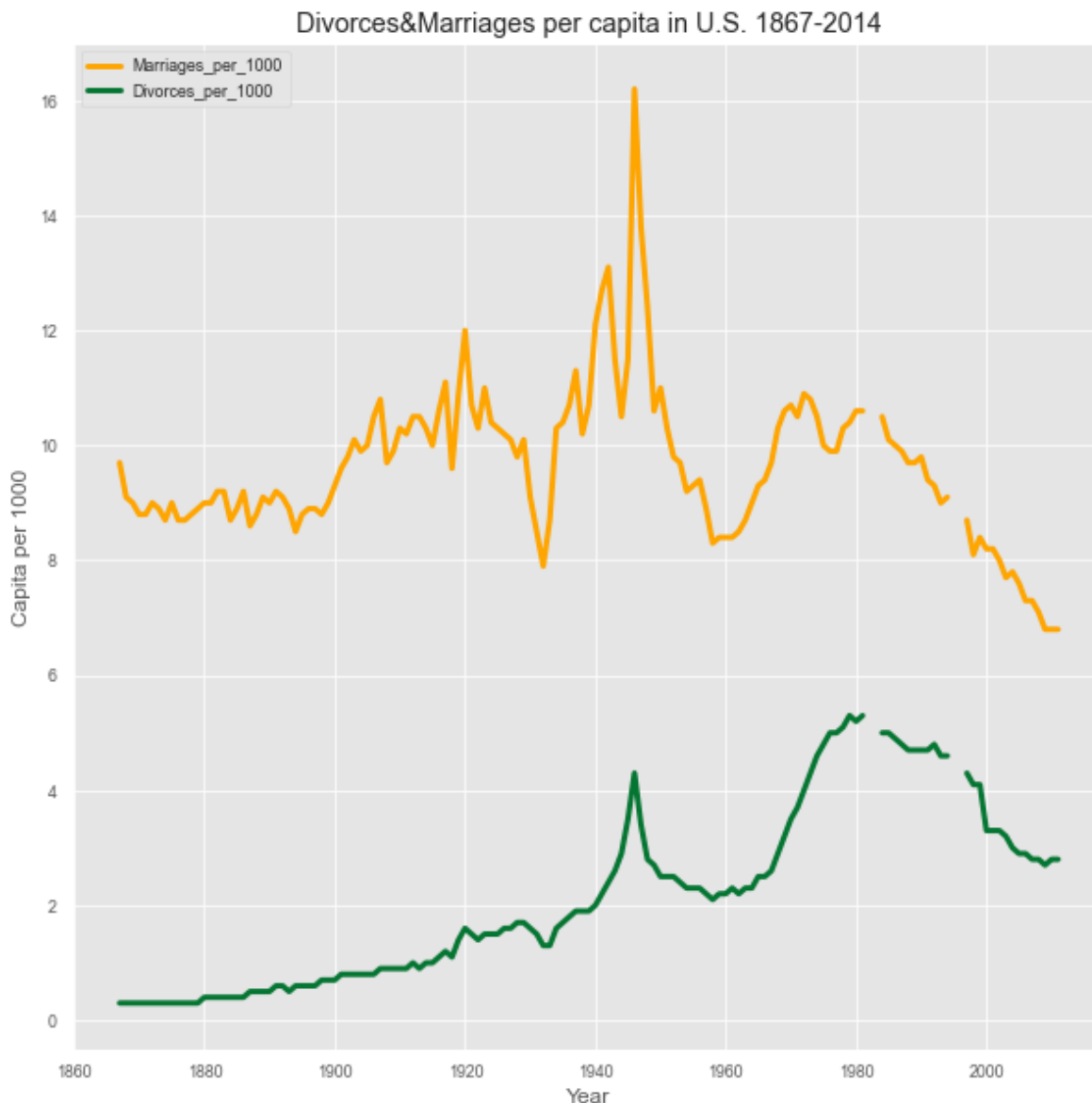
df=pd.read_csv("us-marriages-divorces-1867-2014.csv")
Year=df["Year"]
Marriage_per_capita_in_units=df["Marriages_per_1000"]
p = figure(title="Divorces&Marriages per capita in U.S. between 1867 and 2014", x_axis_label="Year", y_axis_label="Marriage_per_capita_in_units")
p.line(Year, Marriage_per_capita_in_units, legend_label="Marriages_per_1000",line_color="red")
p.line(Year, df["Divorces_per_1000"], legend_label="Divorces_per_1000",line_color="green" ,
show(p))
```



In [93]:

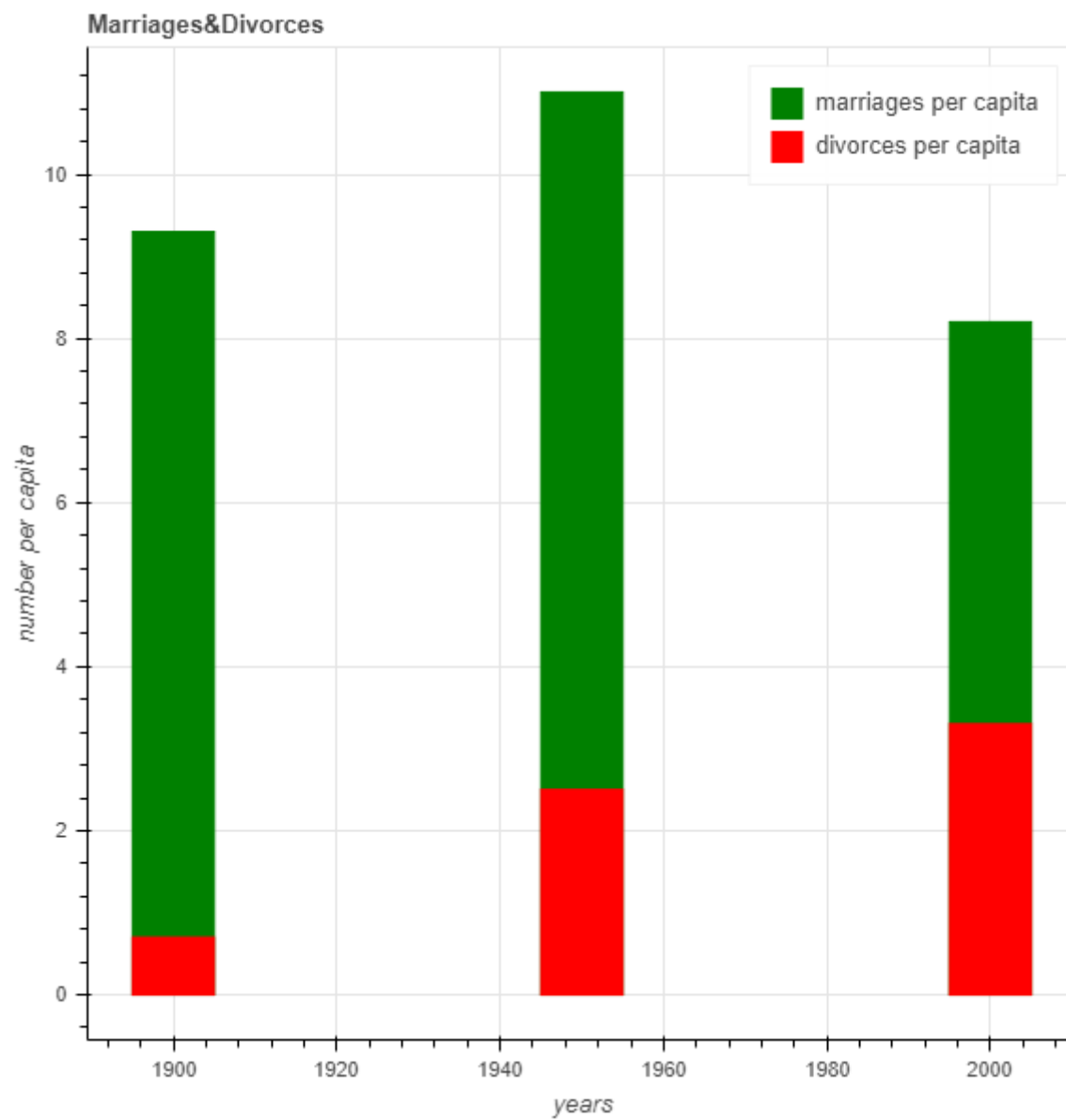
```
#=====12=====
import pandas as pd
import matplotlib.pyplot as plt

col_list = ["Year", "Marriages_per_1000", "Divorces_per_1000"]
df=pd.read_csv("us-marriages-divorces-1867-2014.csv",usecols=col_list)
plt.rcParams["figure.figsize"] = (10,10)
#-----
x=df["Year"]
y2=df["Marriages_per_1000"]
y3=df["Divorces_per_1000"]
#-----
plt.plot(x,y2,color="orange",linewidth=3,label="Marriages_per_1000")
plt.plot(x,y3,color="#057532",linewidth=3,label="Divorces_per_1000")
#-----
plt.legend(loc="upper left")
plt.title("Divorces&Marriages per capita in U.S. 1867-2014")
plt.ylabel("Capita per 1000")
plt.xlabel("Year")
plt.style.use('ggplot')
plt.show()
```



```
#=====13=====
import pandas as pd
from bokeh.io import output_file, show
from bokeh.plotting import figure
#-----
```

```
#-----
show(p)
```



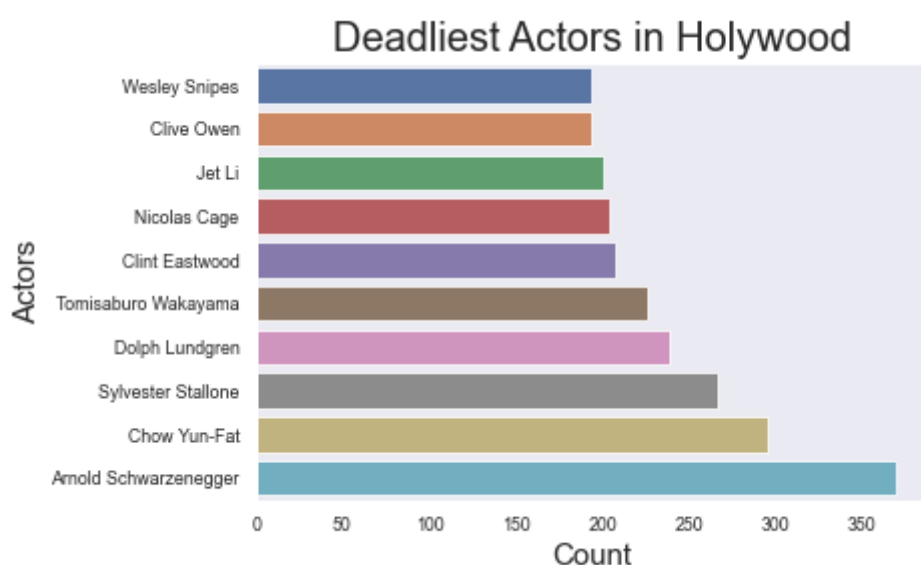
```
#=====14=====
import pandas as pd
import seaborn as sns
import matplotlib.pyplot as plt

#-----
sns.set_style("dark")
df=pd.read_csv("actor_kill_counts.csv")

#-----
ax = sns.barplot(x='Count', y='Actor', data=df,order=df.sort_values("Count").Actor)
ax.set_xlabel('Count',fontsize=15)
ax.set_ylabel('Actors',fontsize=15)
ax.set_title("Deadliest Actors in Hollywood",fontsize=20)

#-----

plt.show()
```





In [13]:

```

#=====15=====
import pandas as pd
import matplotlib.pyplot as plt

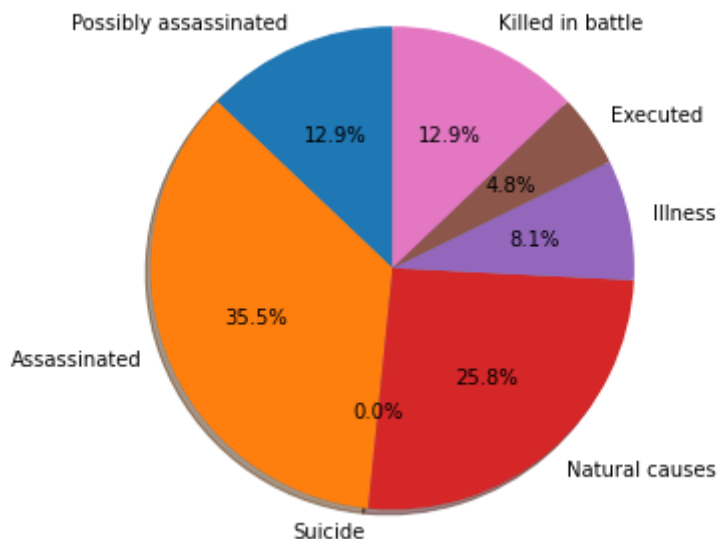
#-----
df=pd.read_csv("roman-emperor-reigns.csv")
labels=["Possibly assassinated","Assassinated","Suicide","Natural causes","Illness","Executed"]
PossiblyAssassinated=0
Assassinated=0
Suicide=0
NaturalCauses=0
Illness=0
Executed=0
InBattle=0

#-----
DeathCount=df["Cause_of_Death"]
for d in DeathCount:
    if d=="Possibly assassinated":
        PossiblyAssassinated=PossiblyAssassinated+1
    elif d=="Assassinated":
        Assassinated=Assassinated+1
    elif d=="Suicide":
        Suicided=Suicide+1
    elif d=="Natural causes":
        NaturalCauses=NaturalCauses+1
    elif d=="Illness":
        Illness=Illness+1
    elif d=="Executed":
        Executed=Executed+1
    elif d=="Killed in battle":
        InBattle=InBattle+1

#-----
PossiblyAssassinated=(PossiblyAssassinated/DeathCount.size)*100
Assassinated=(Assassinated/DeathCount.size)*100
Suicided=(Suicide/DeathCount.size)*100
NaturalCauses=(NaturalCauses/DeathCount.size)*100
Illness=(Illness/DeathCount.size)*100
Executed=(Executed/DeathCount.size)*100
InBattle=(InBattle/DeathCount.size)*100

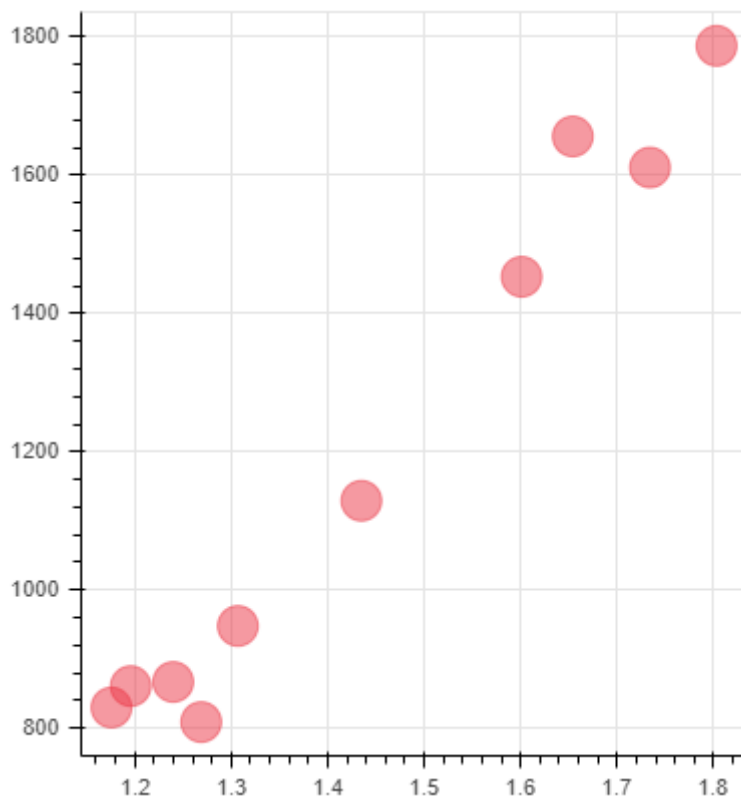
#-----
sizes=[PossiblyAssassinated,Assassinated,Suicided,NaturalCauses,Illness,Executed,InBattle]
labels=["Possibly assassinated","Assassinated","Suicide","Natural causes","Illness","Executed"]
#-----
fig1, ax1 = plt.subplots()
ax1.pie(sizes, explode=(0,0,0,0,0,0,0), labels=labels, autopct='%1.1f%%',shadow=True, startangle=90)
ax1.axis('equal')
#-----
plt.tight_layout()
plt.show()

```



In [62]:

```
#=====16=====
import pandas as pd
from bokeh.io import push_notebook, show, output_notebook
from bokeh.layouts import row
from bokeh.plotting import figure
#-----
df=pd.read_csv("arcade-revenue-vs-cs-doctorates.csv")
output_file("ScatterPlot.html")
p = figure(plot_width=400, plot_height=400)
#-----
p.circle(df['Total Arcade Revenue (billions)'],df['Computer Science Doctorates Awarded (US)'])
#-----
show(p)
```



In [75]:

```

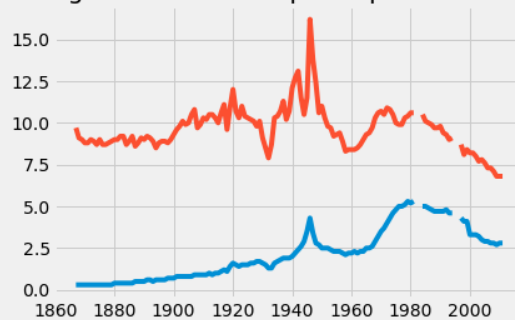
#=====17=====
import matplotlib.pyplot as plt

#-----
df=pd.read_csv("us-marriages-divorces-1867-2014.csv")
plt.style.use('fivethirtyeight')

#-----
fig, ax = plt.subplots()
ax.plot(df['Year'],df['Divorces_per_1000'])
ax.plot(df['Year'],df['Marriages_per_1000'])
ax.set_title("Relationship between marriages and divorces per capita in the U.S. between 1867 and 2014")
#-----
plt.show()

```

Relationship between marriages and divorces per capita in the U.S. between 1867 and 2014



In [82]:

```

#=====18=====
import pandas as pd
import matplotlib.pyplot as plt
import seaborn as sns
myStyle={
    'lines.linewidth':2.5,
    'ytick.labelsize':12,
    'xtick.labelsize':12,
    'colors':['#EE6666', '#1f77b4', '#ff7f0e']
}
a=sns.set_style(rc=myStyle)

```

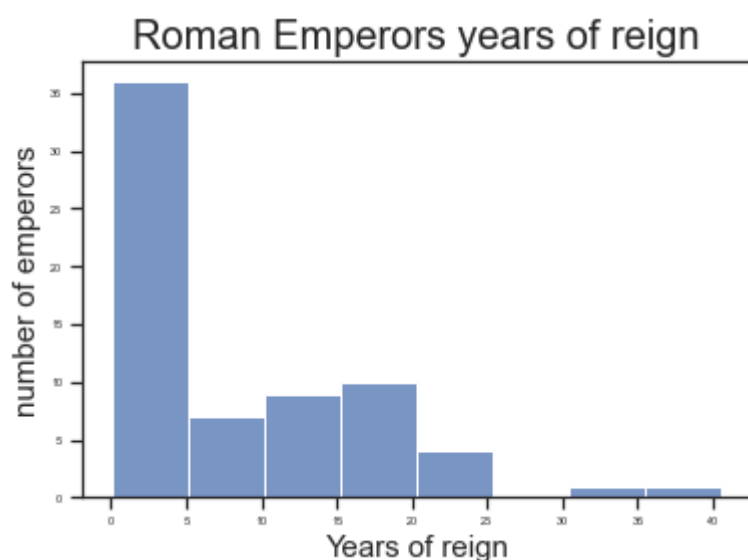
None

In [75]:

```
#=====20=====
import pandas as pd
import matplotlib.pyplot as plt
import seaborn as sns

#this histogram tells me how many emperors were in charge some amount of years

df=pd.read_csv("roman-emperor-reigns.csv")
sns.set_style("ticks")
ax=sns.histplot(data=df,x="Length_of_Reign")
ax.set_xlabel('Years of reign',fontsize=15)
ax.set_ylabel('number of emperors',fontsize=15)
ax.set_title(label="Roman Emperors years of reign",fontsize=20)
plt.show()
```



In [72]:

```

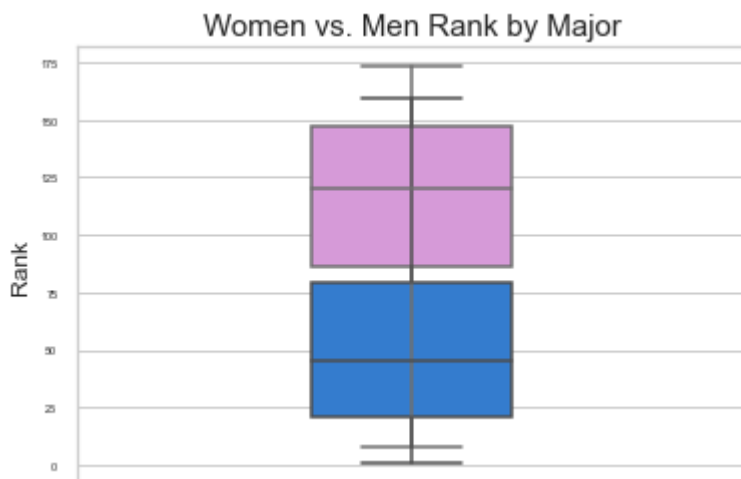
#=====21=====
import pandas as pd
import seaborn as sns
import matplotlib.pyplot as plt

df=pd.read_csv("recent-college-grads-earnings.csv")
womens_majors = df.loc[df["ShareWomen"] >= 0.5]
mans_majors=df.loc[df["ShareWomen"] < 0.5]
sns.set_style("whitegrid")

#-----
ax=sns.boxplot(y=womens_majors["Rank"],color="#df8fe3",width=0.3);
bx=sns.boxplot(y=mans_majors["Rank"],color="#1a7ae8",width=0.3);

ax.set_ylabel("Rank", fontsize= 12)
ax.set_title("Women vs. Men Rank by Major", fontsize= 15)
#-----
plt.show()

```



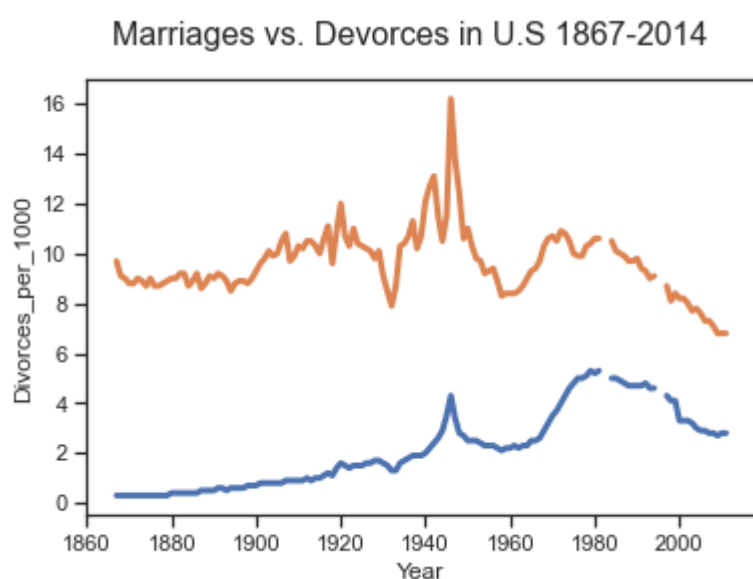
In [53]:

```
#=====22=====
import pandas as pd
import matplotlib.pyplot as plt
import seaborn as sns

df=pd.read_csv("us-marriages-divorces-1867-2014.csv")
#-----
fig, axes = plt.subplots()
fig.suptitle('Marriages vs. Devorces in U.S 1867-2014',fontsize=16)

ax=sns.lineplot(ax=axes,x='Year', y='Divorces_per_1000', data=df,linewidth = 3)
ax=sns.lineplot(ax = axes,x='Year', y='Marriages_per_1000', data=df,linewidth = 3)

#-----
plt.show()
```



In [74]:

#=====23=====

```
import pandas as pd
import seaborn as sns
import matplotlib.pyplot as plt
```

```
df=pd.read_csv("percent-degrees-conferred-women-usa.csv")
```

```
counter=0
```

```
colors=["#ff0a23", "#0efc0a", "#0aeefa", "#f5e50a"]
```

```
#-----
fig, axes = plt.subplots(4,5,figsize=(18, 18))
fig.suptitle('Trends in gender ratio',fontsize=16)
sns.set(font_scale=0.5)
for i in range(0, 4):
    for j in range(0, 5):
        if counter<17:
            sns.lineplot(x="Year",y=df.columns[counter],data=df,ax=axes[i,j],color=colors[i])
            counter=counter+1
```

Trends in gender ratio

