In [31]:

```
pip install pycountry
```

```
Requirement already satisfied: pycountry in c:\users\lucky computers\anaconda3\lib\site-packages (22.3.5)
Requirement already satisfied: setuptools in c:\users\lucky computers\anaconda3\lib\site-packages (from pycountry) (58.0.4)
Note: you may need to restart the kernel to use updated packages.
```

In [32]:

```
pip install plotly
```

```
Requirement already satisfied: plotly in c:\users\lucky computers\anaconda3\lib\site-packages (5.11.0)
Requirement already satisfied: tenacity>=6.2.0 in c:\users\lucky computers\anaconda3\lib\site-packages (from plotly) (8.1.0)
Note: you may need to restart the kernel to use updated packages.
```

1. import important libraries

In [33]:

```
import numpy as np
import pandas as pd
import seaborn as sns
import matplotlib.pyplot as plt
%matplotlib inline
import warnings
import pycountry
import plotly.express as px
import plotly.graph_objs as go

warnings.filterwarnings('ignore')
sns.set_style('darkgrid')
```

2. Read the dataset

In [34]:

```
data_set = pd.read_csv("C:/Users/Lucky Computers/Downloads/Billionaire.csv")
```

In [35]:

```
data_set
```

Out[35]:

	Name	NetWorth	Country	Source	Rank	Age	Industry
0	Jeff Bezos	$177 B	United States	Amazon	1	57.0	Technology
1	Elon Musk	$151 B	United States	Tesla, SpaceX	2	49.0	Automotive
2	Bernard Arnault & family	$150 B	France	LVMH	3	72.0	Fashion & Retail
3	Bill Gates	$124 B	United States	Microsoft	4	65.0	Technology
4	Mark Zuckerberg	$97 B	United States	Facebook	5	36.0	Technology
...	...	...	...	...	...	...	...
2750	Daniel Yong Zhang	$1 B	China	e-commerce	2674	49.0	Technology
2751	Zhang Yuqiang	$1 B	China	Fiberglass	2674	65.0	Manufacturing
2752	Zhao Meiguang	$1 B	China	gold mining	2674	58.0	Metals & Mining
2753	Zhong Naixiong	$1 B	China	conglomerate	2674	58.0	Diversified
2754	Zhou Wei family	$1 B	China	Software	2674	54.0	Technology

2755 rows × 7 columns

In [36]:

```
data_set.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 2755 entries, 0 to 2754
Data columns (total 7 columns):
 #   Column    Non-Null Count  Dtype  
---  ------    --------------  -----  
 0   Name      2755 non-null   object 
 1   NetWorth  2755 non-null   object 
 2   Country   2755 non-null   object 
 3   Source    2755 non-null   object 
 4   Rank      2755 non-null   int64  
 5   Age       2676 non-null   float64
 6   Industry  2755 non-null   object 
dtypes: float64(1), int64(1), object(5)
memory usage: 150.8+ KB
```

3. Statistical Summary

In [37]:

```
data_set.describe()
```

Out[37]:

	Rank	Age
count	2755.000000	2676.000000
mean	1345.663521	63.113602
std	772.669811	13.445153
min	1.000000	18.000000
25%	680.000000	54.000000
50%	1362.000000	63.000000
75%	2035.000000	73.000000
max	2674.000000	99.000000

In [38]:

```
data_set.head(10)
```

Out[38]:

	Name	NetWorth	Country	Source	Rank	Age	Industry
0	Jeff Bezos	$177 B	United States	Amazon	1	57.0	Technology
1	Elon Musk	$151 B	United States	Tesla, SpaceX	2	49.0	Automotive
2	Bernard Arnault & family	$150 B	France	LVMH	3	72.0	Fashion & Retail
3	Bill Gates	$124 B	United States	Microsoft	4	65.0	Technology
4	Mark Zuckerberg	$97 B	United States	Facebook	5	36.0	Technology
5	Warren Buffett	$96 B	United States	Berkshire Hathaway	6	90.0	Finance & Investments
6	Larry Ellison	$93 B	United States	software	7	76.0	Technology
7	Larry Page	$91.5 B	United States	Google	8	48.0	Technology
8	Sergey Brin	$89 B	United States	Google	9	47.0	Technology
9	Mukesh Ambani	$84.5 B	India	diversified	10	63.0	Diversified

In [39]:

```
data_set.tail()
```

Out[39]:

	Name	NetWorth	Country	Source	Rank	Age	Industry
2750	Daniel Yong Zhang	$1 B	China	e-commerce	2674	49.0	Technology
2751	Zhang Yuqiang	$1 B	China	Fiberglass	2674	65.0	Manufacturing
2752	Zhao Meiguang	$1 B	China	gold mining	2674	58.0	Metals & Mining
2753	Zhong Naixiong	$1 B	China	conglomerate	2674	58.0	Diversified
2754	Zhou Wei family	$1 B	China	Software	2674	54.0	Technology

In [40]:

```
data_set.shape
```

Out[40]:

```
(2755, 7)
```

4. Checking null values

In [41]:

```
data_set.isnull().sum()
```

Out[41]:

```
Name         0
NetWorth     0
Country      0
Source       0
Rank         0
Age         79
Industry     0
dtype: int64
```

5. Shape of data

In [42]:

```
data_set.shape
```

Out[42]:

```
(2755, 7)
```

6. Create a new dataframe :

To creating one group from a grouped object

In [43]:

```
billionaire_df = pd.DataFrame()

for c in data_set.Country.unique():
    df_ = data_set.groupby("Country").get_group(c)
    df2_ = pd.DataFrame({"country":[c],"total_Billionaire":[len(df_)]})
    billionaire_df = billionaire_df.append(df2_, ignore_index=True)

billionaire_df = billionaire_df.sort_values("total_Billionaire", ascending=False)
df__ = billionaire_df.set_index('country')

for c in df__.index:
    code = [value.alpha_3 for value in pycountry.countries if (value.name==c)]
    if len(code)==0:
        df__.at[c,"iso_alpha"]= None
        df__.at[c,"Country Name"]= c
    else:
        df__.at[c,"iso_alpha"]= code[0]
        df__.at[c,"Country Name"]= c

df__.head()
```

Out[43]:

country	total_Billionaire	iso_alpha	Country Name
United States	724	USA	United States
China	626	CHN	China
India	140	IND	India
Germany	136	DEU	Germany
Russia	118	None	Russia

checking null values

In [44]:

```
df__.isnull().sum()
```

Out[44]:

```
total_Billionaire    0
iso_alpha            8
Country Name         0
dtype: int64
```

In [45]:

```
a = df__.groupby('country')['total_Billionaire']
```

In [46]:

```
a.head()
```

Out[46]:

```
country
United States           724
China                   626
India                   140
Germany                 136
Russia                  118
                       ... 
Venezuela                 1
Eswatini (Swaziland)      1
Algeria                   1
Liechtenstein             1
Nepal                     1
Name: total_Billionaire, Length: 70, dtype: int64
```

In [47]:

```
for i, j in a:
    print(i, j)
```

```
Algeria country
Algeria    1
Name: total_Billionaire, dtype: int64
Argentina country
Argentina    5
Name: total_Billionaire, dtype: int64
Australia country
Australia    44
Name: total_Billionaire, dtype: int64
Austria country
Austria    12
Name: total_Billionaire, dtype: int64
Belgium country
Belgium    3
Name: total_Billionaire, dtype: int64
Brazil country
Brazil    65
Name: total_Billionaire, dtype: int64
Canada country
Canada    64
Name: total_Billionaire, dtype: int64
Chile country
Chile    9
Name: total_Billionaire, dtype: int64
China country
China    626
Name: total_Billionaire, dtype: int64
Colombia country
Colombia    5
Name: total_Billionaire, dtype: int64
Cyprus country
Cyprus    5
Name: total_Billionaire, dtype: int64
Czechia country
Czechia    9
Name: total_Billionaire, dtype: int64
Denmark country
Denmark    10
Name: total_Billionaire, dtype: int64
Egypt country
Egypt    6
Name: total_Billionaire, dtype: int64
Eswatini (Swaziland) country
Eswatini (Swaziland)    1
Name: total_Billionaire, dtype: int64
Finland country
Finland    7
Name: total_Billionaire, dtype: int64
France country
France    42
Name: total_Billionaire, dtype: int64
Georgia country
Georgia    2
Name: total_Billionaire, dtype: int64
Germany country
Germany    136
Name: total_Billionaire, dtype: int64
Greece country
Greece    4
Name: total_Billionaire, dtype: int64
Guernsey country
Guernsey    1
Name: total_Billionaire, dtype: int64
Hong Kong country
Hong Kong    71
Name: total_Billionaire, dtype: int64
Hungary country
Hungary    2
Name: total_Billionaire, dtype: int64
Iceland country
Iceland    2
Name: total_Billionaire, dtype: int64
India country
India    140
Name: total_Billionaire, dtype: int64
Indonesia country
Indonesia    21
Name: total_Billionaire, dtype: int64
Ireland country
Ireland    9
Name: total_Billionaire, dtype: int64
Israel country
Israel    25
Name: total_Billionaire, dtype: int64
Italy country
Italy    51
Name: total_Billionaire, dtype: int64
Japan country
Japan    49
Name: total_Billionaire, dtype: int64
Kazakhstan country
Kazakhstan    5
Name: total_Billionaire, dtype: int64
Lebanon country
Lebanon    6
Name: total_Billionaire, dtype: int64
Liechtenstein country
Liechtenstein    1
Name: total_Billionaire, dtype: int64
Macao country
Macao    1
Name: total_Billionaire, dtype: int64
Malaysia country
Malaysia    17
Name: total_Billionaire, dtype: int64
Mexico country
Mexico    13
Name: total_Billionaire, dtype: int64
Monaco country
Monaco    3
Name: total_Billionaire, dtype: int64
Morocco country
Morocco    2
Name: total_Billionaire, dtype: int64
Nepal country
Nepal    1
Name: total_Billionaire, dtype: int64
Netherlands country
Netherlands    12
Name: total_Billionaire, dtype: int64
New Zealand country
New Zealand    2
Name: total_Billionaire, dtype: int64
Nigeria country
Nigeria    3
Name: total_Billionaire, dtype: int64
Norway country
Norway    12
Name: total_Billionaire, dtype: int64
Oman country
Oman    1
Name: total_Billionaire, dtype: int64
Peru country
Peru    6
Name: total_Billionaire, dtype: int64
Philippines country
Philippines    17
Name: total_Billionaire, dtype: int64
Poland country
Poland    8
Name: total_Billionaire, dtype: int64
Portugal country
Portugal    2
Name: total_Billionaire, dtype: int64
Qatar country
Qatar    2
Name: total_Billionaire, dtype: int64
Romania country
Romania    2
Name: total_Billionaire, dtype: int64
Russia country
Russia    118
Name: total_Billionaire, dtype: int64
Singapore country
Singapore    27
Name: total_Billionaire, dtype: int64
Slovakia country
Slovakia    2
Name: total_Billionaire, dtype: int64
South Africa country
South Africa    5
Name: total_Billionaire, dtype: int64
South Korea country
South Korea    43
Name: total_Billionaire, dtype: int64
Spain country
Spain    30
Name: total_Billionaire, dtype: int64
St. Kitts and Nevis country
St. Kitts and Nevis    1
Name: total_Billionaire, dtype: int64
Sweden country
Sweden    41
Name: total_Billionaire, dtype: int64
Switzerland country
Switzerland    40
Name: total_Billionaire, dtype: int64
Taiwan country
Taiwan    47
Name: total_Billionaire, dtype: int64
Tanzania country
Tanzania    1
Name: total_Billionaire, dtype: int64
Thailand country
Thailand    31
Name: total_Billionaire, dtype: int64
Turkey country
Turkey    27
Name: total_Billionaire, dtype: int64
Ukraine country
Ukraine    7
Name: total_Billionaire, dtype: int64
United Arab Emirates country
United Arab Emirates    4
Name: total_Billionaire, dtype: int64
United Kingdom country
United Kingdom    56
Name: total_Billionaire, dtype: int64
United States country
United States    724
Name: total_Billionaire, dtype: int64
Venezuela country
Venezuela    1
Name: total_Billionaire, dtype: int64
Vietnam country
Vietnam    6
Name: total_Billionaire, dtype: int64
Zimbabwe country
Zimbabwe    1
Name: total_Billionaire, dtype: int64
```

7. Billioniares From Top Two Country VS Rest of the World

In [48]:

```
o = sum(billionaire_df.total_Billionaire)-sum(billionaire_df.iloc[:2].total_Billionaire)
n = list(billionaire_df.iloc[:2].total_Billionaire)
n.append(o)
```

In [49]:

```
o
```

Out[49]:

```
1405
```

In [50]:

```
c = list(billionaire_df.iloc[:2].country)
c.append("Other Country")
```

In [51]:

```
c
```

Out[51]:

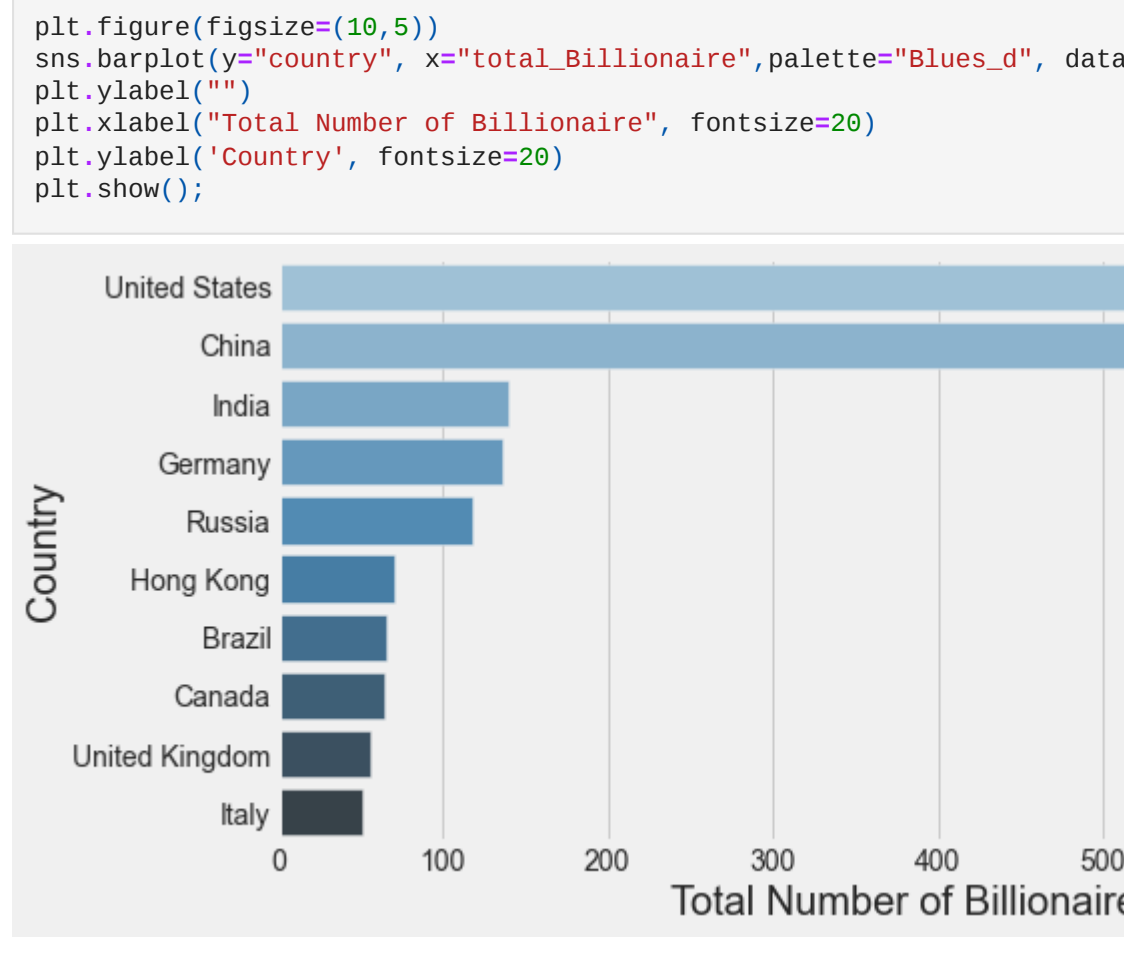
```
['United States', 'China', 'Other Country']
```

8. Visualize tha data

pie chart

In [52]:

```
plt.figure(figsize=(10,7))
plt.style.use("fivethirtyeight")
plt.pie(n, labels=c, shadow=True, startangle=90,autopct='%1.1f%%', wedgeprops=('edgecolor':'black'))
plt.tight_layout()
```



barplot

In [53]:

```
plt.figure(figsize=(10,5))
sns.barplot(y="country", x="total_Billionaire",palette="Blues_d", data=billionaire_df.iloc[:10])
plt.ylabel("")
plt.xlabel("Total Number of Billionaire", fontsize=20)
plt.ylabel('Country', fontsize=20)
plt.show();
```


9. Continent Based Billionaires List

In [54]:

```
def plt_billionaire(continent="world",title=""):
    fig = px.choropleth(df__, locations="iso_alpha", color="total_Billionaire", hover_name="Country Name",
                        color_continuous_scale="Viridis", color_continuous_midpoint= 300, scope = str(continent))
    layout = go.Layout(title=go.layout.Title(text= f"<b>{title}</b>", x=0.5), showlegend=False, font=dict(size=14),
                        width=750, height = 350, margin=dict(l=0,r=0,b=0,t=30))

    fig.update_layout(layout)
    fig.show()
```

In [55]:

```
plt_billionaire(continent="africa",title="African Billionaires List")
```

In [56]:

```
plt_billionaire(continent="asia", title="Asian Billionaires List")
```

In [57]:

```
plt_billionaire(continent="europe",title="European Billionaires List")
```

In [58]:

```
plt_billionaire(continent="south america",title="South American Billionaires List")
```

In [59]:

```
plt_billionaire(continent="north america",title="North American Billionaires List")
```

10. World Map by Forbes Billionaires List

In [60]:

```
plt_billionaire(continent="world",title="Worldwide Billionaires")
```

In [ ]:

In [ ]: