

starbucks

March 14, 2017

0.0.1 Founding History

The first Starbucks opened in Seattle, Washington, on March 31, 1971, by three partners who met while they were students at the University of San Francisco: English teacher Jerry Baldwin, history teacher Zev Siegl, and writer Gordon Bowker were inspired to sell high-quality coffee beans and equipment by coffee roasting entrepreneur Alfred Peet after he taught them his style of roasting beans. The company took the name of the chief mate in the book Moby-Dick: Starbuck, after considering "Cargo House" and "Pequod". Bowker recalls that Terry Heckler, with whom Bowker owned an advertising agency, thought words beginning with "st" were powerful. The founders brainstormed a list of words beginning with "st". Someone pulled out an old mining map of the Cascade Range and saw a mining town named "Starbo", which immediately put Bowker in mind of the character "Starbuck".

0.0.2 Surprising Facts about

- It was founded by two teachers and a writer
- The most loyal 20% of customers come into the store at least 16 times per month.
- There are over 87,000 drink combination possibilities.
- The "trenta" sized cup holds more liquid than the human stomach.
- The inventor of the Pumpkin Spice Latte was a Stanford basketball player.
- Since 1987, an average of two Starbucks stores have opened each day.
- The majority of their flavored drinks contain more sugar than one should consume in entire day.
- A "grande" sized coffee contains four times the amount of caffeine as Red Bull.
- Starbucks spends more on the healthcare insurance of its employees than on its coffee beans.

```
In [2]: import pandas as pd
import numpy as np
import seaborn as sns
import matplotlib.pyplot as plt
from mpl_toolkits.basemap import Basemap
%matplotlib inline
sns.set(style="white", context="talk")

starbucks = pd.read_csv('directory.csv')
```

```
In [3]: from IPython.display import Image
Image(url='https://rde-stanford-edu.s3.amazonaws.com/Hospitality/Images/starbucks-head')
```

Out [3]:



0.03 Read first few rows

In [4]: `starbucks.head(5)`

Out [4]:

	Brand	Store Number	Store Name	Ownership Type	\
0	Starbucks	47370-257954	Meritxell, 96	Licensed	
1	Starbucks	22331-212325	Ajman Drive Thru	Licensed	
2	Starbucks	47089-256771	Dana Mall	Licensed	
3	Starbucks	22126-218024	Twofour 54	Licensed	
4	Starbucks	17127-178586	Al Ain Tower	Licensed	

	Street Address	City	State/Province	Country	\
0	Av. Meritxell, 96	Andorra la Vella	7	AD	
1	1 Street 69, Al Jarf	Ajman	AJ	AE	
2	Sheikh Khalifa Bin Zayed St.	Ajman	AJ	AE	
3	Al Salam Street	Abu Dhabi	AZ	AE	
4	Khalidiya Area, Abu Dhabi Island	Abu Dhabi	AZ	AE	

	Postcode	Phone Number	Timezone	Longitude	Latitude
0	AD500	376818720	GMT+1:00 Europe/Andorra	1.53	42.51
1	NaN	NaN	GMT+04:00 Asia/Dubai	55.47	25.42
2	NaN	NaN	GMT+04:00 Asia/Dubai	55.47	25.39
3	NaN	NaN	GMT+04:00 Asia/Dubai	54.38	24.48
4	NaN	NaN	GMT+04:00 Asia/Dubai	54.54	24.51

0.04 Read last few rows

In [5]: `starbucks.tail(5)`

Out [5]:

	Brand	Store Number	Store Name	Ownership Type	\
25595	Starbucks	21401-212072	Rex	Licensed	
25596	Starbucks	24010-226985	Panorama	Licensed	

25597	Starbucks	47608-253804	Rosebank Mall	Licensed
25598	Starbucks	47640-253809	Menlyn Maine	Licensed
25599	Starbucks	47609-253286	Mall of Africa	Licensed

	Street Address \
25595	141 Nguyen Hu, Qun 1, Góc ng Pasteur và L...
25596	SN-44, Tòa Nhà Panorama, 208 Trn Vn Trà, Qun 7
25597	Cnr Tyrwhitt and Cradock Avenue, Rosebank
25598	Shop 61B, Central Square, Cnr Aramist & Coroba...
25599	Shop 2077, Upper Level, Waterfall City

	City	State/Province	Country	Postcode	Phone Number \
25595	Thành Ph H Chí Minh	SG	VN	70000	08 3824 4668
25596	Thành Ph H Chí Minh	SG	VN	70000	08 5413 8292
25597	Johannesburg	GT	ZA	2194	27873500159
25598	Menlyn	GT	ZA	181	NaN
25599	Midrand	GT	ZA	1682	27873500215

	Timezone	Longitude	Latitude
25595	GMT+000000 Asia/Saigon	106.70	10.78
25596	GMT+000000 Asia/Saigon	106.71	10.72
25597	GMT+000000 Africa/Johannesburg	28.04	-26.15
25598	GMT+000000 Africa/Johannesburg	28.28	-25.79
25599	GMT+000000 Africa/Johannesburg	28.11	-26.02

0.0.5 Dataset dimensions

```
In [6]: starbucks.shape
```

```
Out[6]: (25600, 13)
```

0.0.6 Number of Records having complete data for each column

```
In [7]: starbucks.notnull().sum()
```

```
Out[7]: Brand                25600
Store Number                25600
Store Name                  25600
Ownership Type              25600
Street Address              25598
City                        25585
State/Province              25600
Country                     25600
Postcode                    24078
Phone Number                18739
Timezone                    25600
Longitude                   25599
Latitude                    25599
dtype: int64
```

0.0.7 Completeness Percentage

```
In [8]: starbucks.notnull().sum() * 100/starbucks.shape[0]
```

```
Out[8]: Brand          100.000000  
        Store Number   100.000000  
        Store Name      100.000000  
        Ownership Type  100.000000  
        Street Address   99.992188  
        City            99.941406  
        State/Province  100.000000  
        Country          100.000000  
        Postcode         94.054688  
        Phone Number     73.199219  
        Timezone         100.000000  
        Longitude        99.996094  
        Latitude         99.996094  
        dtype: float64
```

0.0.8 How many stores are operating around the world?

```
In [9]: starbucks.shape[0]
```

```
Out[9]: 25600
```

0.0.9 How many countries have stores around the world?

```
In [10]: len(starbucks.Country.unique())
```

```
Out[10]: 73
```

0.0.10 Which Country has the maximum number of Stores?

```
In [11]: starbucks.Country.value_counts().head(1)
```

```
Out[11]: US      13608  
        Name: Country, dtype: int64
```

0.0.11 Top 10 Countries with most number of stores

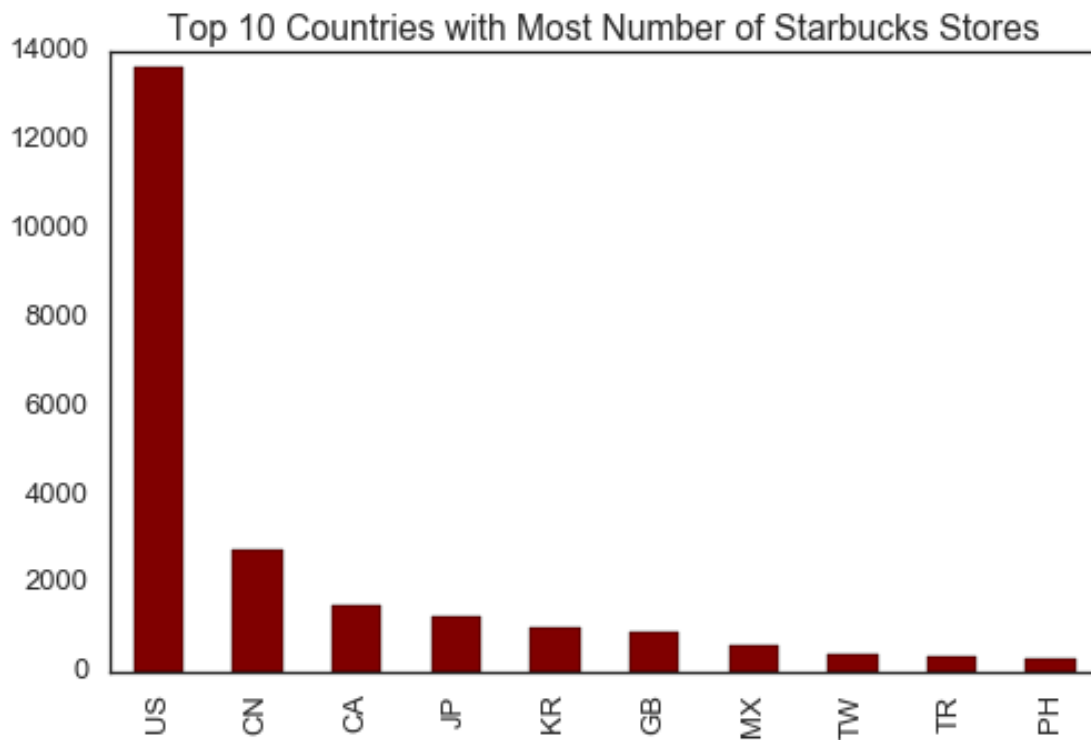
```
In [12]: starbucks.Country.value_counts().head(10)
```

```
Out[12]: US      13608  
        CN       2734  
        CA       1468  
        JP       1237  
        KR        993  
        GB        901  
        MX        579  
        TW        394
```

```
TR      326
PH      298
Name: Country, dtype: int64
```

```
In [13]: fig = plt.figure(figsize=(8,5))
ax = fig.add_subplot(111)
ax.set(title = "Top 10 Countries with Most Number of Starbucks Stores")
starbucks.Country.value_counts().head(10).plot(kind="bar", color = "maroon")
```

```
Out[13]: <matplotlib.axes._subplots.AxesSubplot at 0x113990690>
```



0.0.12 Which city has the maximum number of stores?

```
In [14]: starbucks.City.value_counts().head(1)
```

```
Out[14]:      542
Name: City, dtype: int64
```

0.0.13 Top 10 Cities with most number of stores

```
In [15]: starbucks.City.value_counts().head(10)
```

```
Out[15]:      542
Seoul      243
```

```

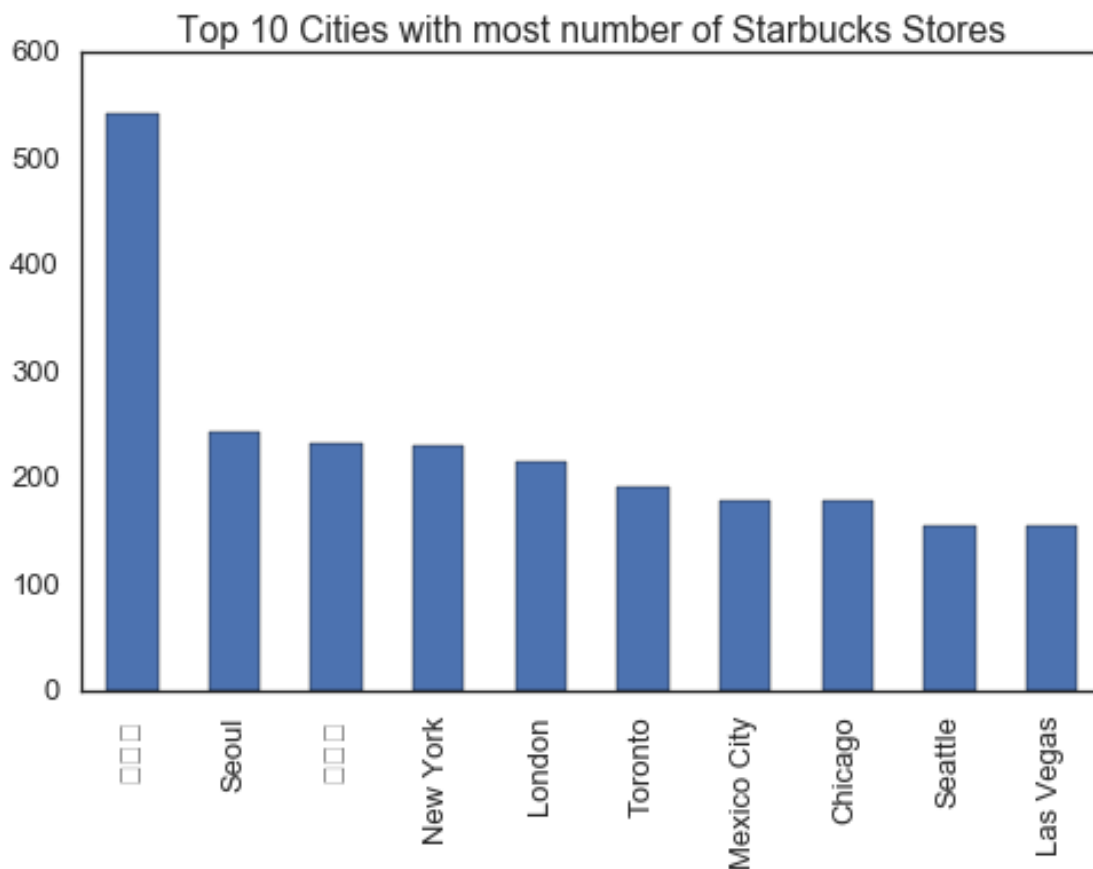
                234
New York      232
London       216
Toronto      192
Mexico City  180
Chicago      180
Seattle      156
Las Vegas    156
Name: City, dtype: int64

```

```

In [16]: fig = plt.figure(figsize=(8,5))
         ax = fig.add_subplot(111)
         ax.set(title = "Top 10 Cities with most number of Starbucks Stores")
         starbucks.City.value_counts().head(10).plot(kind="bar")
         plt.show()

```



0.0.14 Who owns the stores?

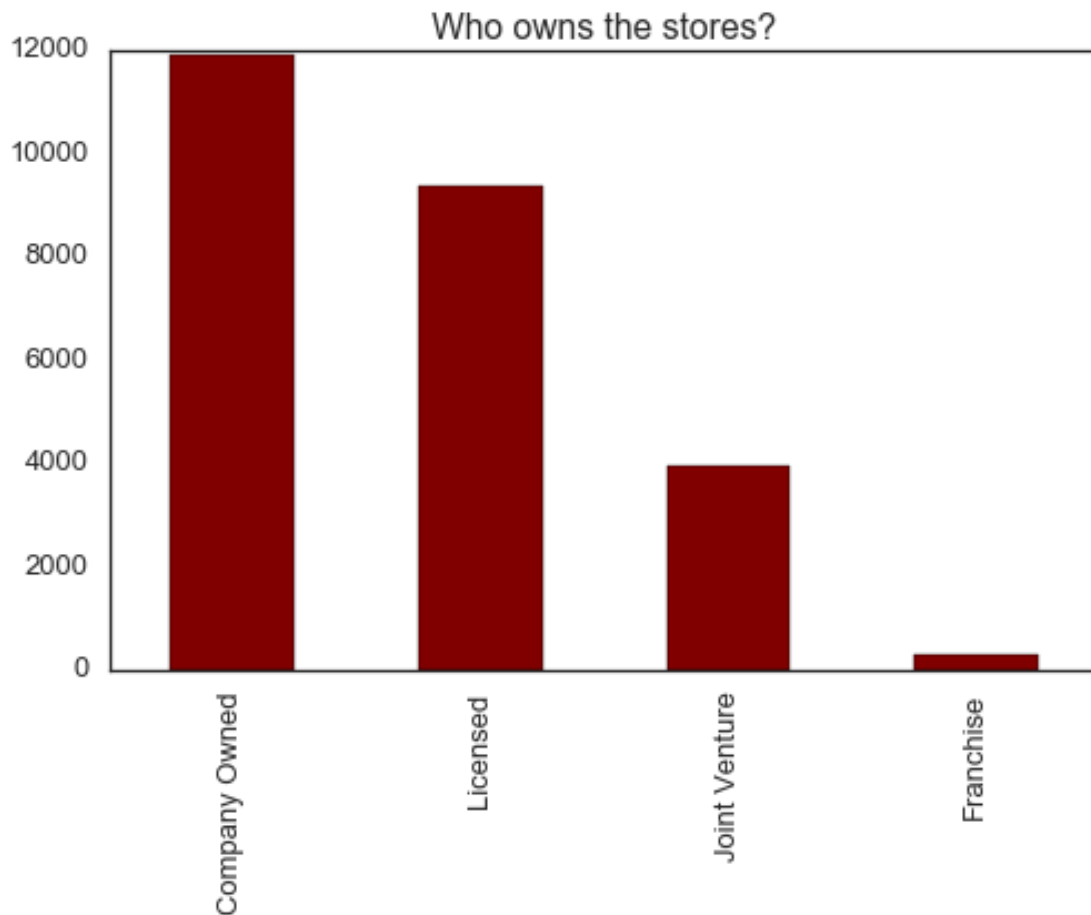
```

In [17]: starbucks['Ownership Type'].value_counts()

```

```
Out[17]: Company Owned    11932
         Licensed         9375
         Joint Venture    3976
         Franchise        317
         Name: Ownership Type, dtype: int64
```

```
In [18]: fig = plt.figure(figsize=(8,5))
         ax = fig.add_subplot(111)
         ax.set(title = "Who owns the stores?")
         starbucks['Ownership Type'].value_counts().plot(kind="bar", color = "maroon")
         plt.show()
```



0.0.15 Which State in USA has the most number of Starbucks stores?

```
In [19]: usa_states = starbucks[starbucks['Country'] == 'US']
         usa_states['State/Province'].value_counts().head(1)
```

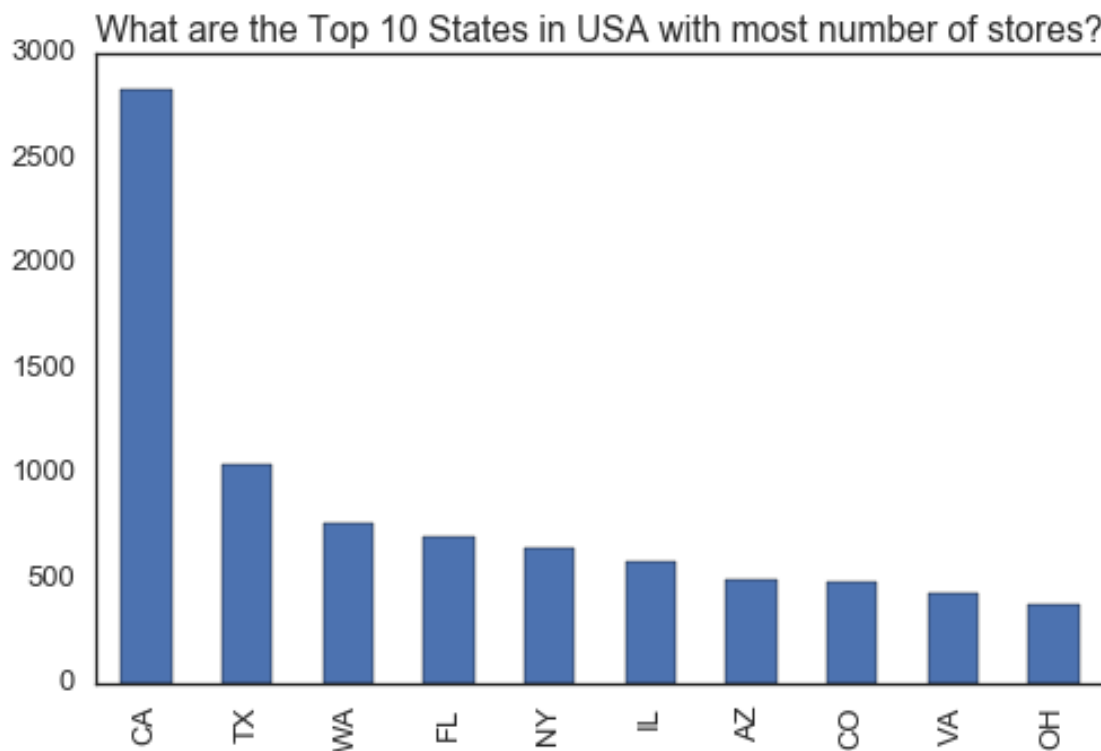
```
Out[19]: CA    2821
         Name: State/Province, dtype: int64
```

0.0.16 What are the Top 10 States in USA based on number of stores?

```
In [20]: usa_states['State/Province'].value_counts().head(10)
```

```
Out[20]: CA      2821  
         TX      1042  
         WA       757  
         FL       694  
         NY       645  
         IL       575  
         AZ       488  
         CO       481  
         VA       432  
         OH       378  
         Name: State/Province, dtype: int64
```

```
In [21]: fig = plt.figure(figsize=(8,5))  
         ax = fig.add_subplot(111)  
         ax.set(title="What are the Top 10 States in USA with most number of stores?")  
         usa_states['State/Province'].value_counts().head(10).plot(kind="bar")  
         plt.show()
```



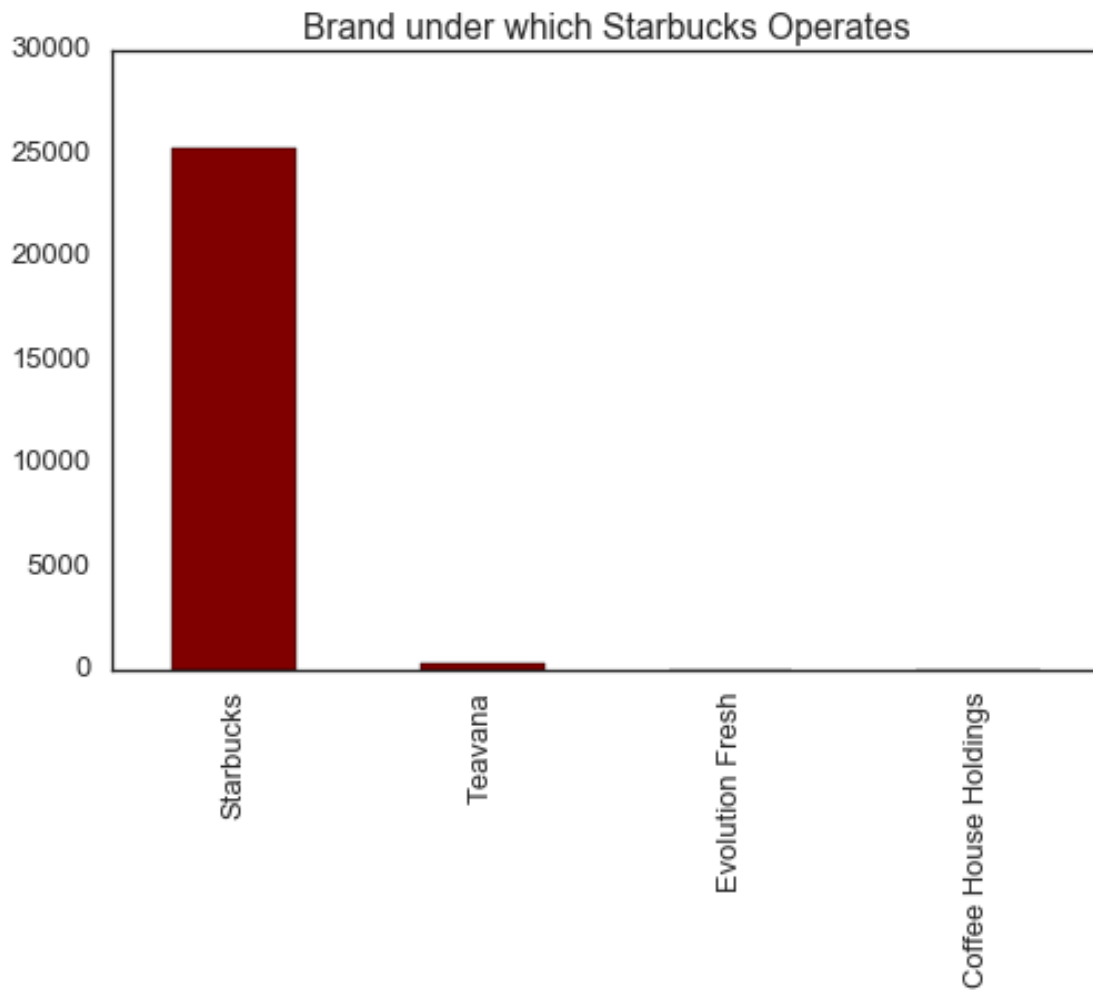
0.0.17 Brands under which Starbucks Operates

```
In [22]: starbucks.Brand.value_counts()
```



```
Out [22]: Starbucks      25249
          Teavana        348
          Evolution Fresh    2
          Coffee House Holdings 1
          Name: Brand, dtype: int64
```

```
In [23]: fig = plt.figure(figsize=(8,5))
          ax = fig.add_subplot(111)
          ax.set(title="Brand under which Starbucks Operates")
          starbucks.Brand.value_counts().plot(kind="bar", color = "maroon")
          plt.show()
```



0.0.18 Mapping of the Stores World Wide

```
In [24]: plt.figure(figsize=(12,9))
          m = Basemap(projection = 'mill', llcrnrlat = -80, urcrnrlat = 80, llcrnrlon = -180, urcrnrlon = 180)
```

```

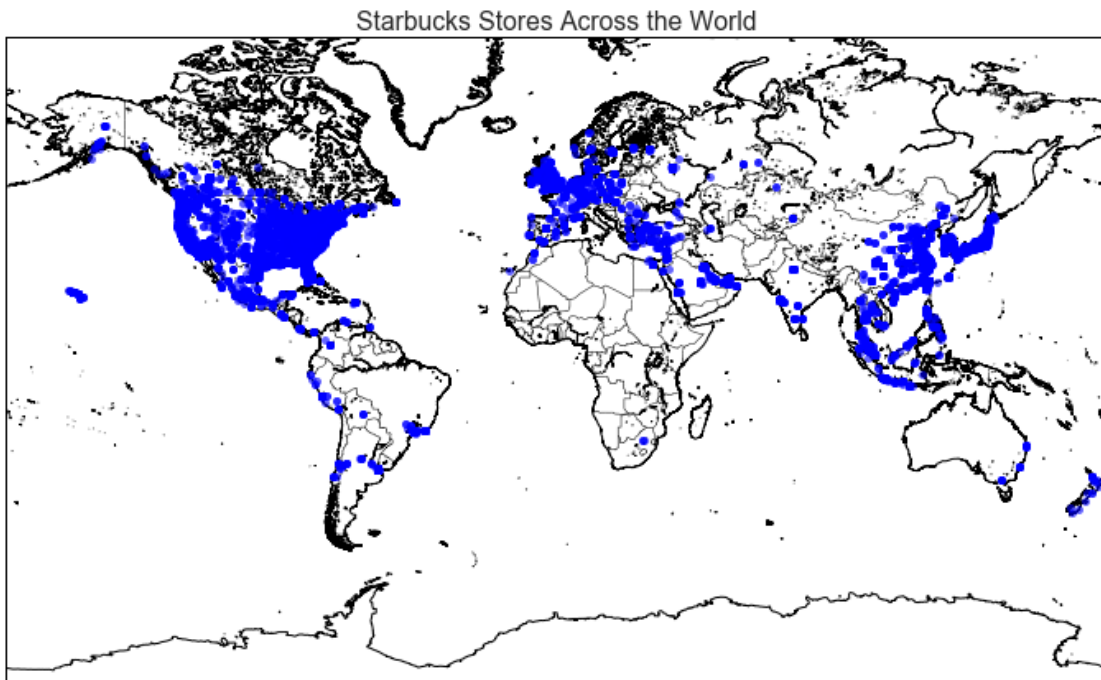
m.drawcoastlines()
m.drawcountries()

m.drawmapboundary(fill_color='white')

x, y = m(list(starbucks["Longitude"].astype(float)), list(starbucks["Latitude"].astype(float)))
m.plot(x, y, 'bo', markersize = 5, alpha = 0.6, color = "blue")

plt.title('Starbucks Stores Across the World')
plt.show()

```



0.0.19 Mapping of Stores in USA

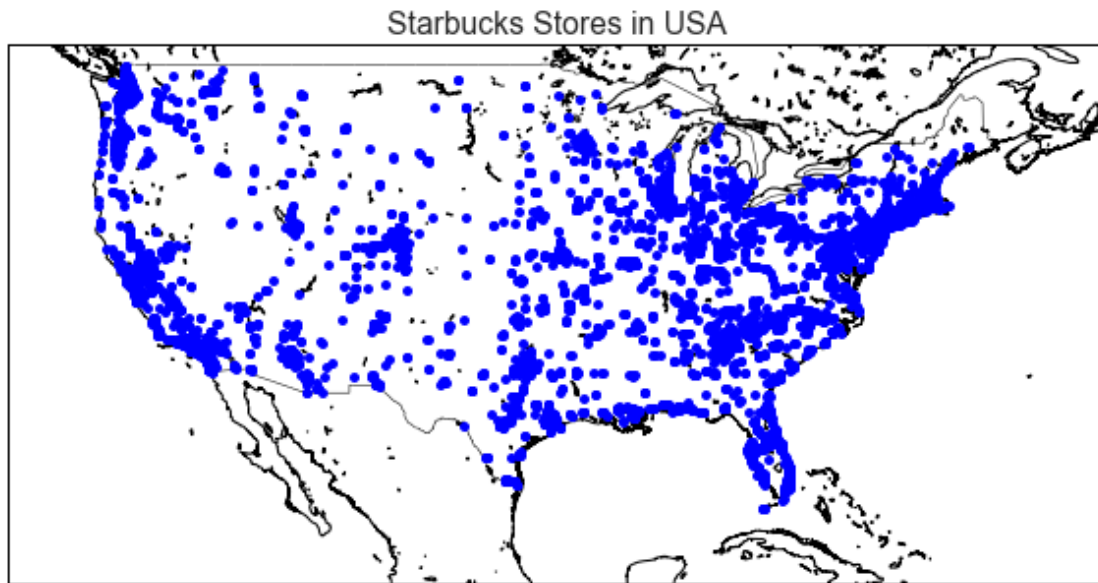
```

In [26]: plt.figure(figsize=(10,8))
m = Basemap(projection='mill', llcrnrlat = 20, urcrnrlat = 50, llcrnrlon = -130, urcrnrlon = 130)
m.drawcoastlines()
m.drawcountries()
m.drawmapboundary(fill_color='white')

x, y = m(list(usa_states["Longitude"].astype(float)), list(usa_states["Latitude"].astype(float)))
m.plot(x, y, 'bo', markersize = 5)

plt.title('Starbucks Stores in USA')
plt.show()

```



0.0.20 References

- <https://en.wikipedia.org/wiki/Starbucks>
- <http://www.therichest.com/business/companies-business/10-facts-you-didnt-know-about-starbucks/>
- <https://spoonuniversity.com/lifestyle/starbucks-facts-that-will-shock-you>
- https://en.wikipedia.org/wiki/Tata_Starbucks