Python Plots

In [1]:
```
# Import libraries
import pandas as pd
import matplotlib.pyplot as plt
import squarify
import numpy as np
from scipy.stats import kde
import squarify
import seaborn as sns
import plotly.graph_objects as go
```

In [2]:
```
# Import Data
education_df = pd.read_csv('education.csv')
education_df.head()
```

Out[2]:

	state	reading	math	writing	percent_graduates_sat	pupil_staff_ratio	dropout_rate
0	United States	501	515	493	46	7.9	4.4
1	Alabama	557	552	549	7	6.7	2.3
2	Alaska	520	516	492	46	7.9	7.3
3	Arizona	516	521	497	26	10.4	7.6
4	Arkansas	572	572	556	5	6.8	4.6

In [3]:
```
# Import Data
birth_df = pd.read_csv('birth-rate.csv')
birth_df.head()
```

Out[3]:

	Country	1960	1961	1962	1963	1964	1965	1966	1967	1968	...	1999	2000	200
0	Aruba	36.400	35.179	33.863	32.459	30.994	29.513	28.069	26.721	25.518	...	15.024	14.528	14.04
1	Afghanistan	52.201	52.206	52.208	52.204	52.192	52.168	52.130	52.076	52.006	...	51.229	50.903	50.48
2	Angola	54.432	54.394	54.317	54.199	54.040	53.836	53.585	53.296	52.984	...	48.662	48.355	48.0(
3	Albania	40.886	40.312	39.604	38.792	37.913	37.008	36.112	35.245	34.421	...	17.713	16.850	16.08
4	Netherlands Antilles	32.321	30.987	29.618	28.229	26.849	25.518	24.280	23.173	22.230	...	15.809	15.412	15.09

5 rows × 50 columns

In [14]:
```
car_df = pd.read_excel(r'Vehicle MPG.xlsx')
car_df.head()
car_df.info()
```

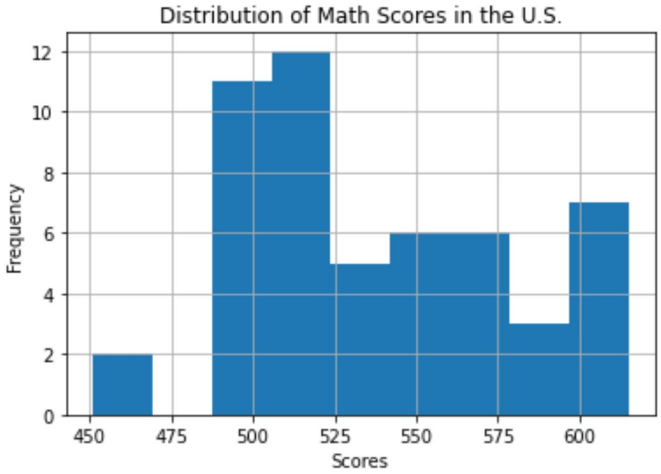
```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 14 entries, 0 to 13
Data columns (total 3 columns):
Make     14 non-null object
Model    14 non-null object
MPG      14 non-null int64
dtypes: int64(1), object(2)
memory usage: 464.0+ bytes
```

In [ ]:
```
# Import Data
#costco_df = pd.read_csv('costcos-geocoded.csv')
#costco_df.head()
```

Histogram

In [11]:
```
education_df['math'].hist(bins=9)
plt.title('Distribution of Math Scores in the U.S.')
plt.xlabel('Scores')
plt.ylabel('Frequency')
```

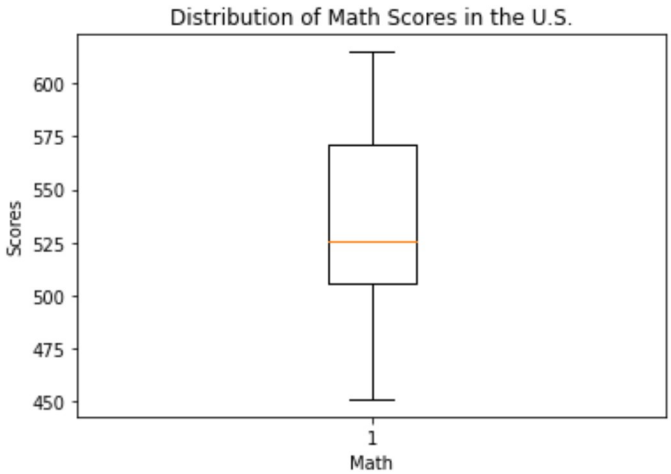
Out[11]:
```
Text(0, 0.5, 'Frequency')
```



Box Plot

In [18]:
```
plt.boxplot(education_df['math'])

# show plot
plt.title('Distribution of Math Scores in the U.S.')
plt.xlabel('Math')
plt.ylabel('Scores')
plt.show()
```



Bullet Plot

In [33]:
```
fig = go.Figure(go.Indicator(
    mode = "number+gauge+delta", value = 14.60,
    domain = {'x': [0.1, 1], 'y': [0, 1]},
    title = {'text' :"<b>U.S.</b>"},
    gauge = {
        'shape': "bullet",
        'axis': {'range': [None, 20]},
        'threshold': {
            'line': {'color': "red", 'width': 2},
            'thickness': 0.75,
            'value': 18},
        'steps': [
            {'range': [0, 10], 'color': "lightgray"},
            {'range': [10, 20], 'color': "gray"}]}))
fig.update_layout(height = 250)
fig.show()
```