

```
In [31]: #Import Libraries

import numpy as np
import pandas as pd
import matplotlib.pyplot as plt
import warnings
warnings.filterwarnings('ignore')
import seaborn as sns
import scipy.stats as stats
import plotly.figure_factory as ff

In [32]: #Read data from CSV
df_crime =pd.read_csv("crimeratesbystate-formatted.csv")

In [33]: df_crime.head()
```

Out[33]:

	state	murder	forcible_rape	robbery	aggravated_assault	burglary	larceny_theft	motor_vehicle_theft
0	United States	5.6	31.7	140.7	291.1	726.7	2286.3	416.7
1	Alabama	8.2	34.3	141.4	247.8	953.8	2650.0	288.3
2	Alaska	4.8	81.1	80.9	465.1	622.5	2599.1	391.0
3	Arizona	7.5	33.8	144.4	327.4	948.4	2965.2	924.4
4	Arkansas	6.7	42.9	91.1	386.8	1084.6	2711.2	262.1

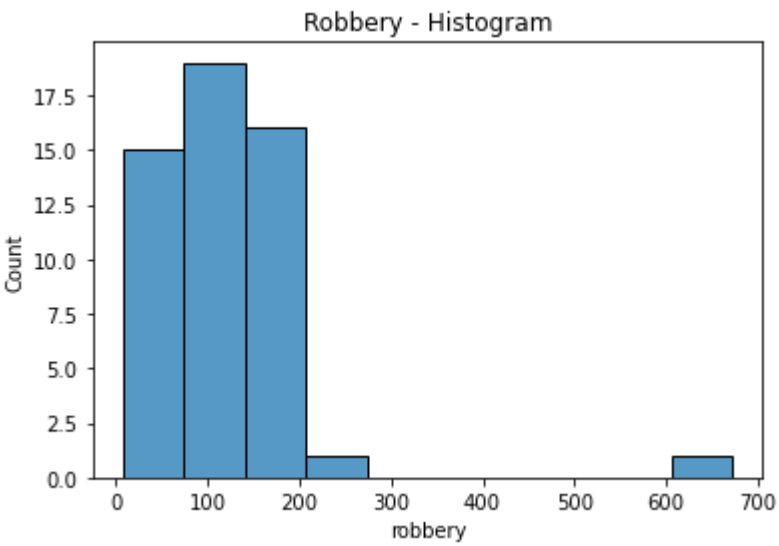
```
In [34]: # Set up the dataset.
df_education = pd.read_csv('education.csv')
df_education.head()
```

Out[34]:

	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

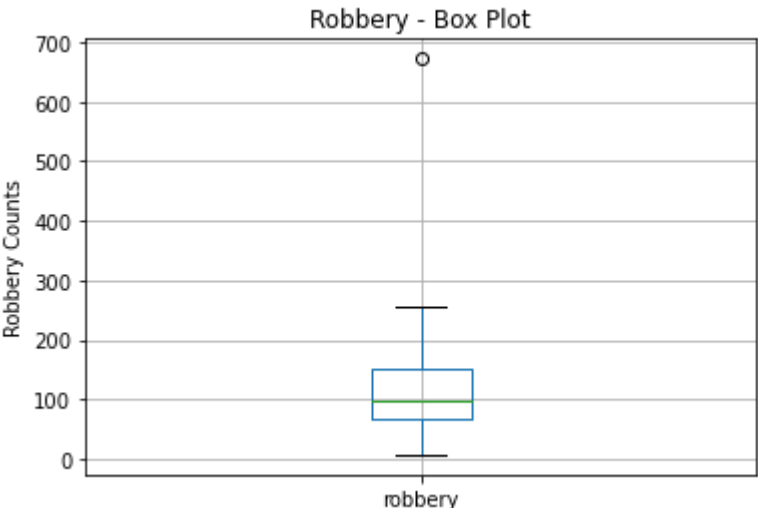
Histogram

```
In [35]: sns.histplot(data=df_crime, x="robbery", bins=10)
plt.title("Robbery - Histogram")
plt.show()
```



Box Plot

```
In [36]: fig, ax = plt.subplots()
boxplot = df_crime.boxplot(column='robbery', return_type='axes')
plt.ylabel("Robbery Counts")
plt.title("Robbery - Box Plot")
plt.show()
```



Bullet Graph

```
In [37]: # Create a data object to hold the values to display.
data = [
    {"title": "Reading",
     "ranges": [df_education["reading"].min(), df_education["reading"].mean(), df_education["reading"].max()],
     "measures": [466, 533],
     "markers": [int(df_education["reading"].mean())]},

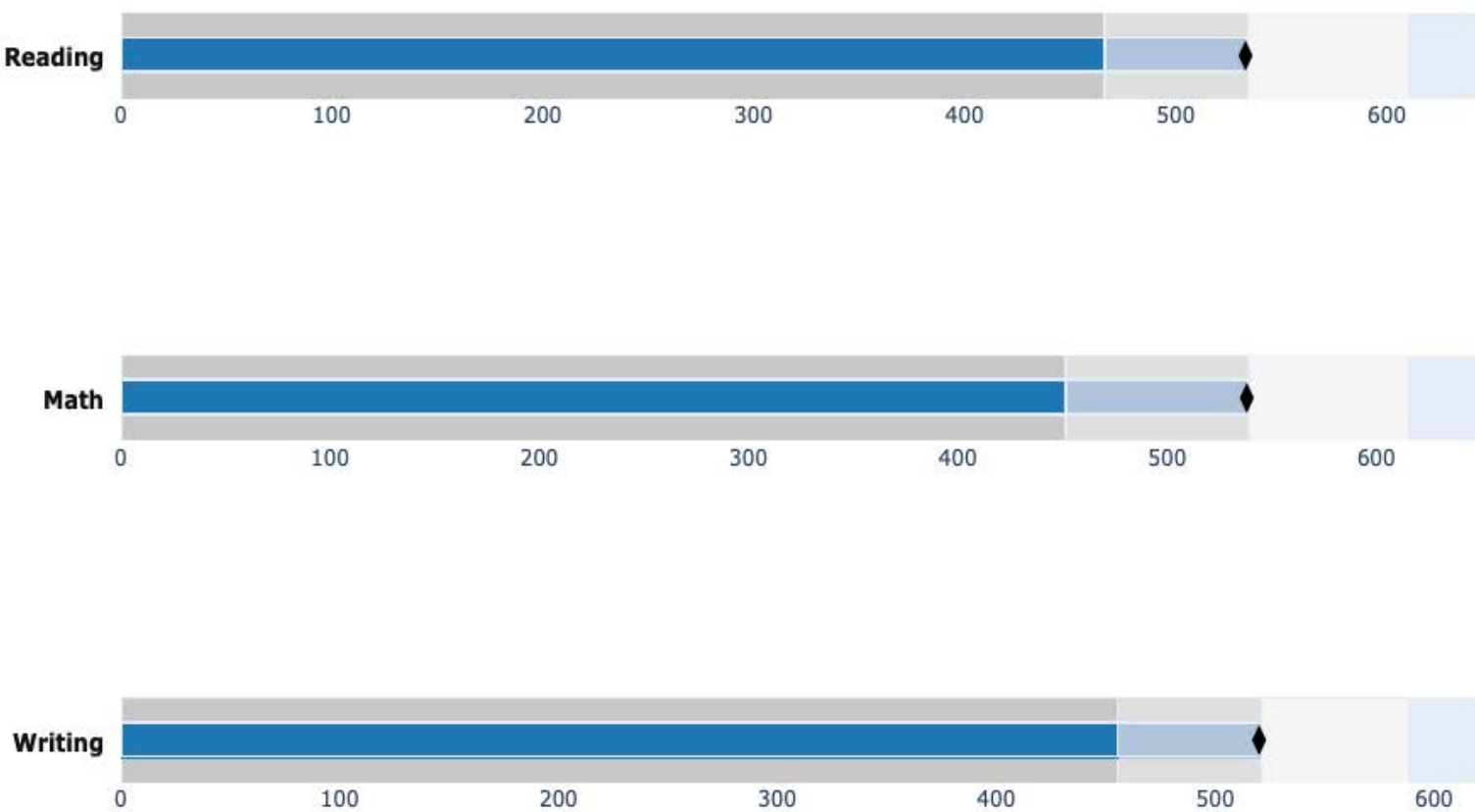
    {"title": "Math",
     "ranges": [df_education["math"].min(), df_education["math"].mean(), df_education["math"].max()],
     "measures": [451, 538],
     "markers": [int(df_education["math"].mean())]},

    {"title": "Writing",
     "ranges": [df_education["writing"].min(), df_education["writing"].mean(), df_education["writing"].max()],
     "measures": [455, 520],
     "markers": [int(df_education["writing"].mean())]}
]

#Create the bullet chart.
fig = ff.create_bullet(
    data, titles='title',
    markers='markers',
    measures='measures',
    ranges='ranges',
    orientation='h',
    title='Python Bullet Chart'
)

fig.show()
```

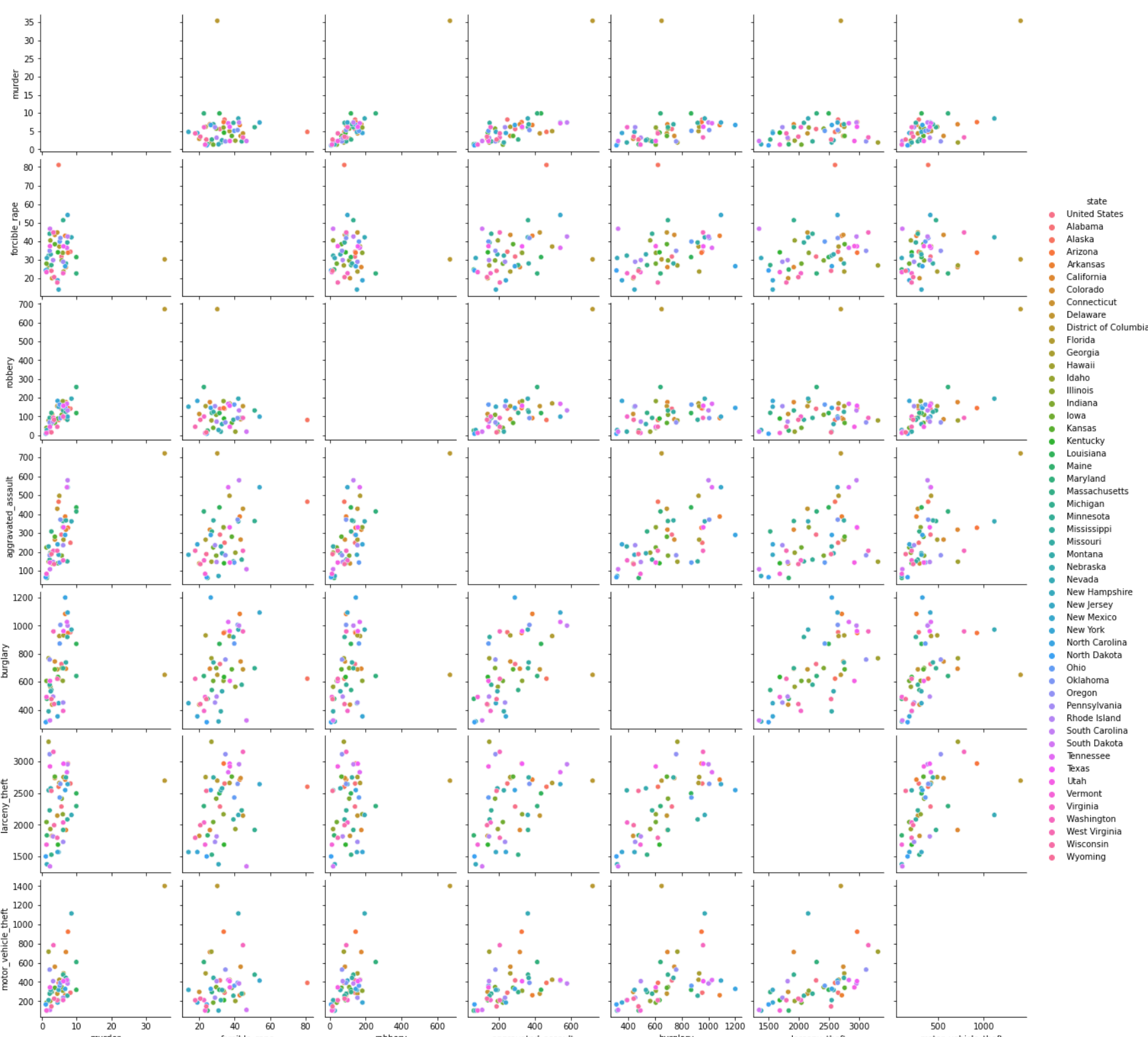
Python Bullet Chart



Pair Plot

```
In [38]: sns.pairplot(df_crime,hue="state")

Out[38]: <seaborn.axisgrid.PairGrid at 0x7faf7b3f08e0>
```



```
In [ ]:
```

