Avveer's Intro To Graphing Tutorial (matplotlib)

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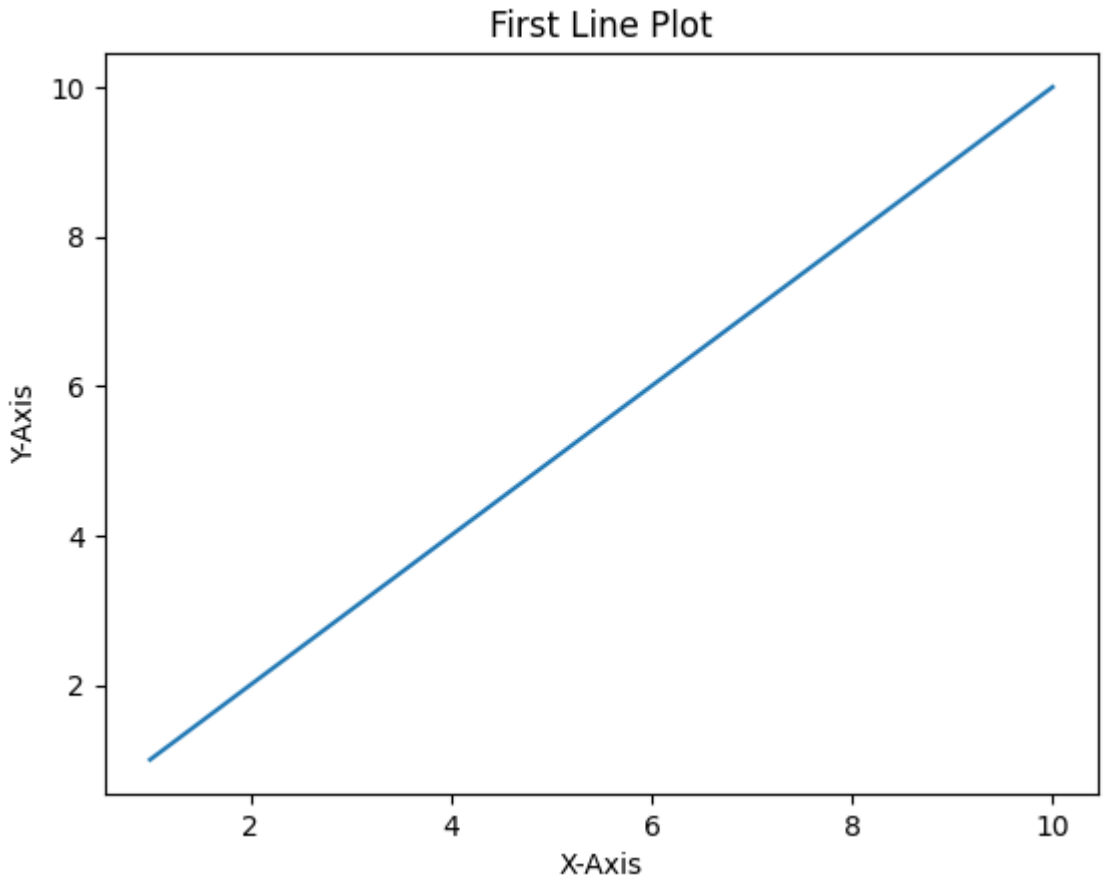
Github Repo: Matplotlib_FirstLesson

Tutorials Contained:

1. Line PLots
2. Scatter Plots
3. Bar Graphs
4. Multi-Plot Graphs
5. Basic Info (No Seperate Cell: Each One Gradually Adds Concepts)

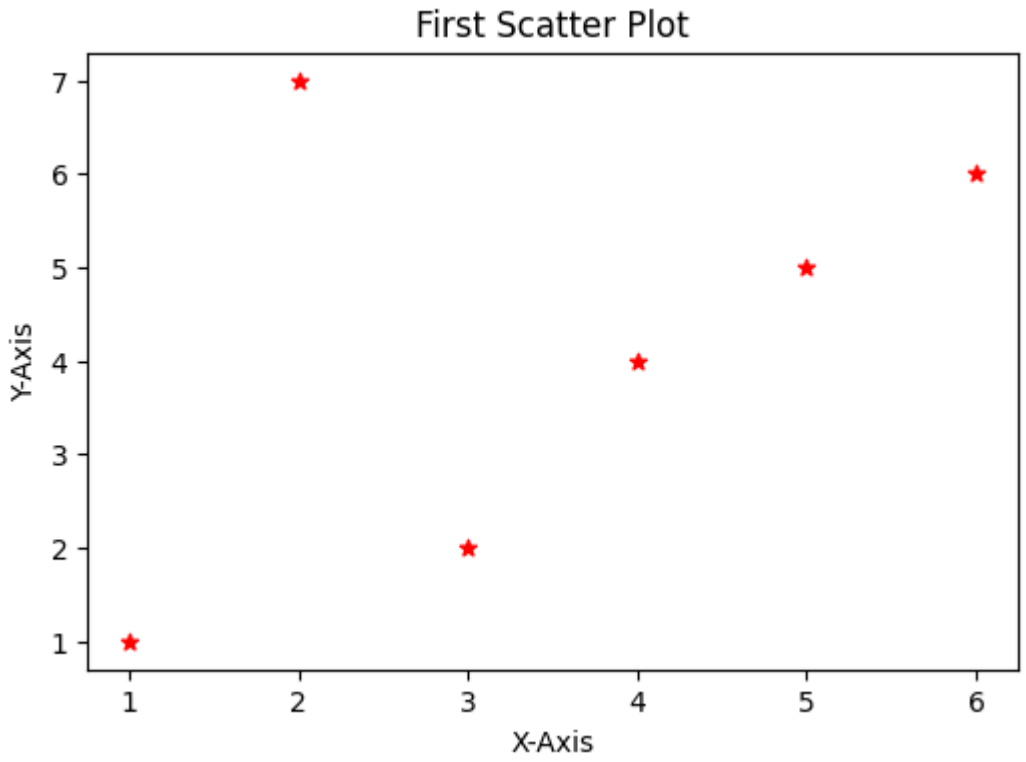
1. LINE PLOT

In [4]:
```
# LINE PLOT
# Import Matplotlib
import matplotlib.pyplot as plt

#Imput data for x and y axis (Note: Leave space after comma)
x= [1, 2, 3, 4, 5, 6, 7, 8, 9, 10]
y= [1, 2, 3, 4, 5, 6, 7, 8, 9, 10]

# Create LINE PLOT (Note: Leave space after comma)
plt.plot(x, y)

#Label x and y axis
plt.xlabel('X-Axis')
plt.ylabel('Y-Axis')

# Add Title
plt.title('First Line Plot')

#Display Plot
plt.show()
```



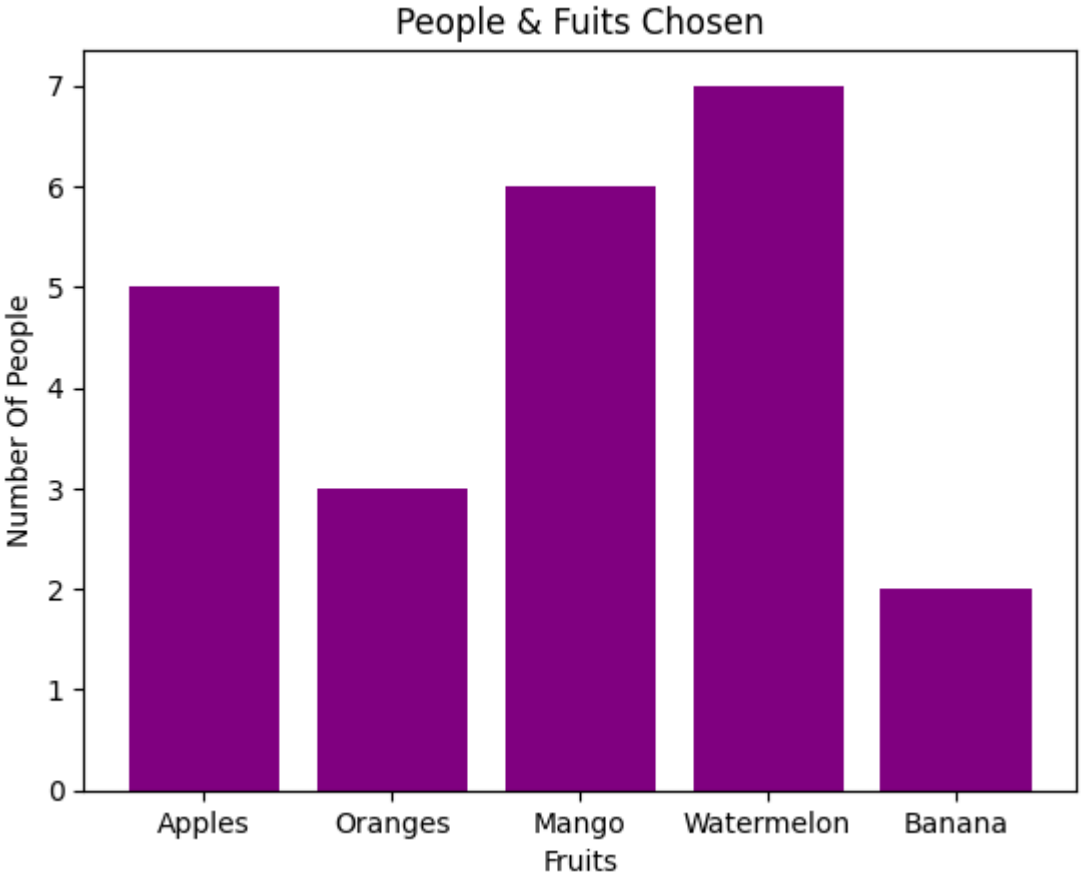
2. SCATTER PLOT

In [5]:
```
# SCATTER PLOT
# No need to import matplotlib again

#Imput data for x and y axis
x= [1, 2, 3, 4, 5, 6]
y= [1, 7, 2, 4, 5, 6]

# Limit size of graph to 6 by 4 inches to make convertion to pdf easier
plt.figure(figsize=(6,4))

# Create SCATTER PLOT (Note: Color = output color & marker = x value shpa
plt.scatter(x, y, color= 'red', marker= '*')

#Label x and y axis
plt.xlabel('X-Axis')
plt.ylabel('Y-Axis')

# Add Title
plt.title('First Scatter Plot')

#Display Plot
plt.show()
```



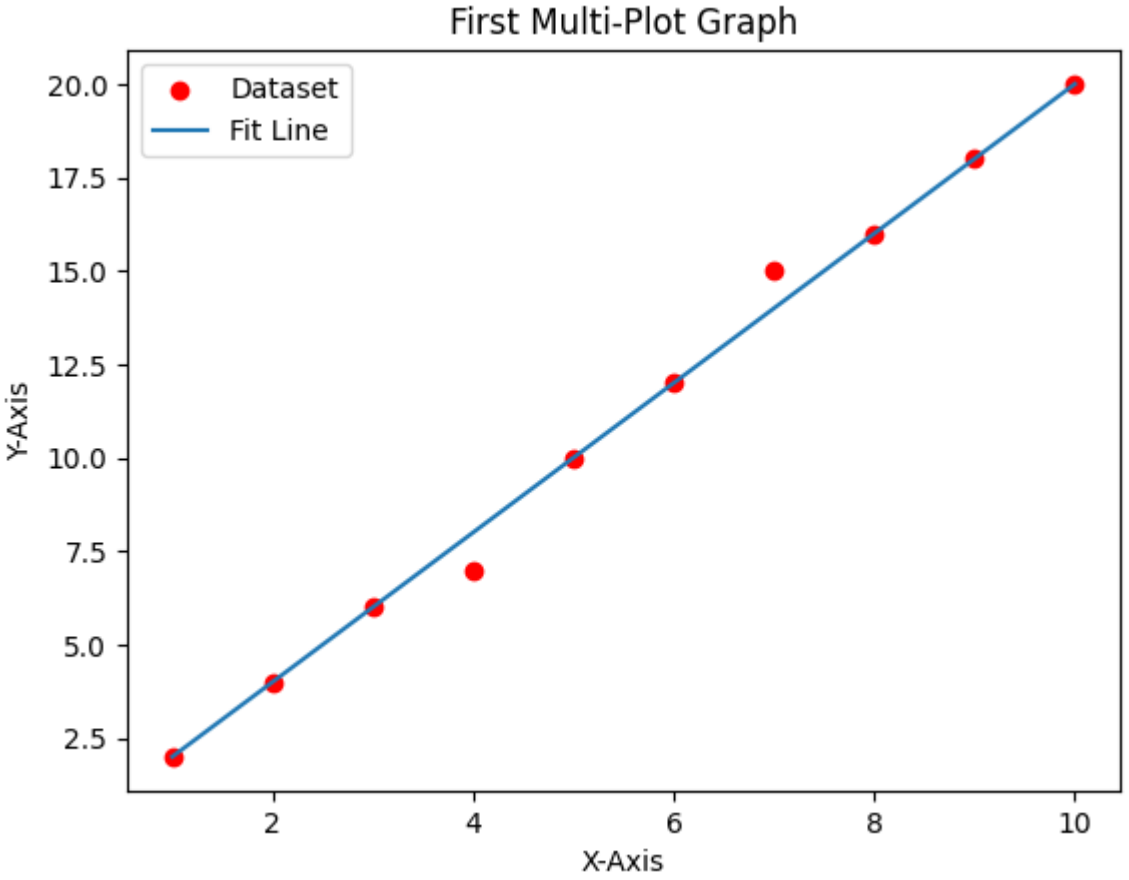
3. BAR GRAPH

In [26]:
```
# BAR GRAPH

#Imput data for x and y axis / categories and number (Note: Use '' for va
categories= ['Apples', 'Oranges', 'Mango', 'Watermelon', 'Banana'] # x-ax
number= [5, 3, 6, 7, 2] # y-axis

# Create BAR GRAPH
plt.bar(categories, number, color= 'purple')

#Label x and y axis
plt.xlabel('Fruits')
plt.ylabel('Number Of People')

# Add Title
plt.title('People & Fuits Chosen')

#Display Plot
plt.show()
```



4. MULTI-PLOT GRAPH

In [27]:
```
# MULTI-PLOT GRAPH

# Input data for x, y1, y2
x= [1,2,3,4,5,6,7,8,9,10]
y1= [2,4,6,7,10,12,15,16,18,20] # scatter plot
y2= [2,4,6,8,10,12,14,16,18,20] # line plot

# Make 2 Graphs, I will use scatterplot and
plt.scatter(x, y1, label= 'Dataset', color= 'red', marker= 'o')
plt.plot(x, y2, label='Fit Line')

# Label x and y axis
plt.xlabel('X-Axis')
plt.ylabel('Y-Axis')

# Add Title
plt.title('First Multi-Plot Graph')

# Display legend and graphs
plt.legend()
plt.show()
```



Conclusion:

Thank you for reading though this document. I hope this guid helps you learn/review/ better graphing skills with matplotlib. To check out more of my projects please visit my website Avveer's Portfolio