Future Intern Project of Data Analytics Task 3

Task 1: Create a Histogram or Bar Chart to visualize the distribution of data in a dataset

Steps:

1. **Import Packages and Iris dataset and load and display**
    1. **Iris Dataset**

```
[1]: import matplotlib.pyplot as plt
     import seaborn as sns
     import pandas as pd
```

```
[3]: #Load Dataset
     iris = pd.read_csv('Iris.csv')
```

```
[66]: iris.head()
```

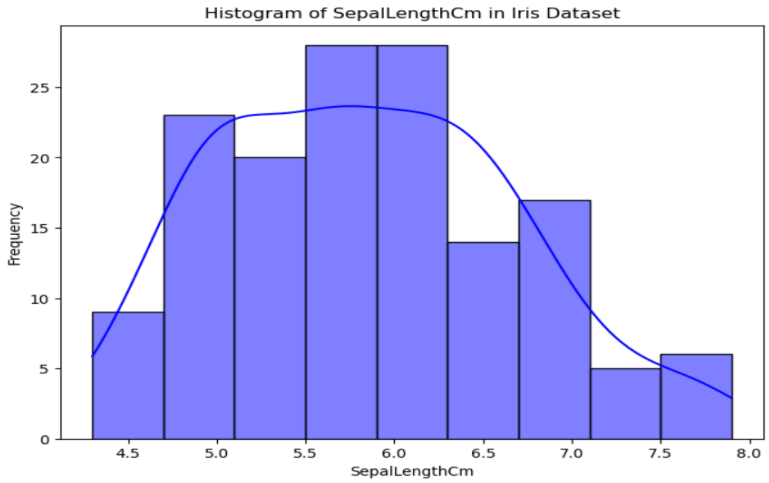
[66]:

	Id	SepalLengthCm	SepalWidthCm	PetalLengthCm	PetalWidthCm	Species
0	1	5.1	3.5	1.4	0.2	Iris-setosa
1	2	4.9	3.0	1.4	0.2	Iris-setosa
2	3	4.7	3.2	1.3	0.2	Iris-setosa
3	4	4.6	3.1	1.5	0.2	Iris-setosa
4	5	5.0	3.6	1.4	0.2	Iris-setosa

2. **Select the feature you want to visualize and create a Histogram**
    1. **SepaLengthCm**

```
[68]: #Select the feature you want to visualize
      feature_to_plot ="SepalLengthCm"
```

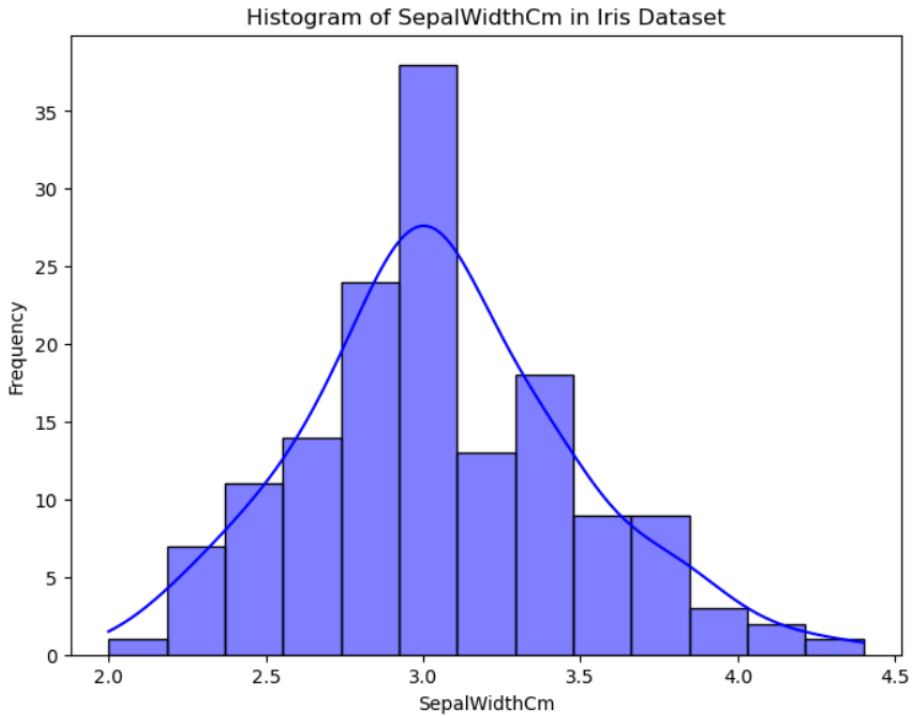
```
[42]: #Create a Histogram of SepaLengthCm
      plt.figure(figsize=(8,6))
      sns.histplot(iris[feature_to_plot], kde=True, color="Blue")
      plt.title(f"Histogram of {feature_to_plot} in Iris Dataset")
      plt.xlabel(feature_to_plot)
      plt.ylabel("Frequency")
      plt.show()
```



2. SepaWidthCm

```
#Select the feature you want to visualize
feature_to_plot = "SepalWidthCm"
```

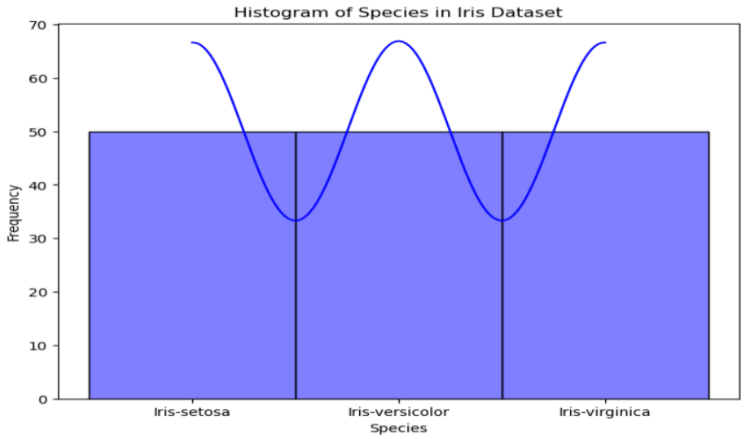
```
#Create a Histogram of SepaWidthCm
plt.figure(figsize=(8,6))
sns.histplot(iris[feature_to_plot], kde=True, color="Blue")
plt.title(f"Histogram of {feature_to_plot} in Iris Dataset")
plt.xlabel(feature_to_plot)
plt.ylabel("Frequency")
plt.show()
```



3. Species

```
#Select the feature you want to visualize
feature_to_plot = "Species"
```

```
#Create a Histogram of Species
plt.figure(figsize=(8,6))
sns.histplot(iris[feature_to_plot], kde=True, color="Blue")
plt.title(f"Histogram of {feature_to_plot} in Iris Dataset")
plt.xlabel(feature_to_plot)
plt.ylabel("Frequency")
plt.show()
```

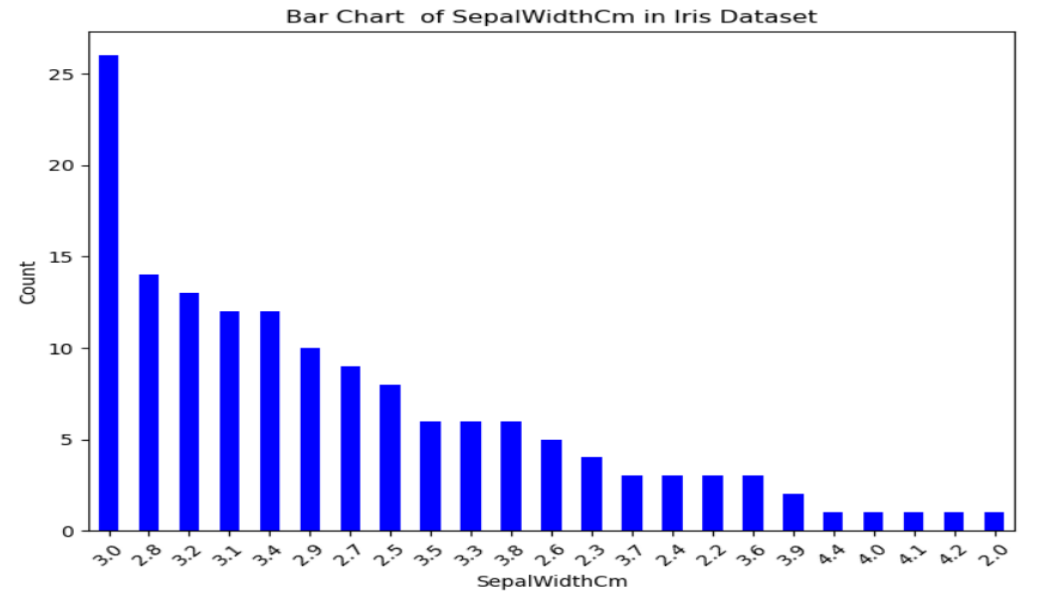


3. Select the feature you want to visualize and create a Bar Chart

1. SepalWidthCm

```
[52]: #Select the feature you want to visualize
feature_to_plot = "SepalWidthCm"
```

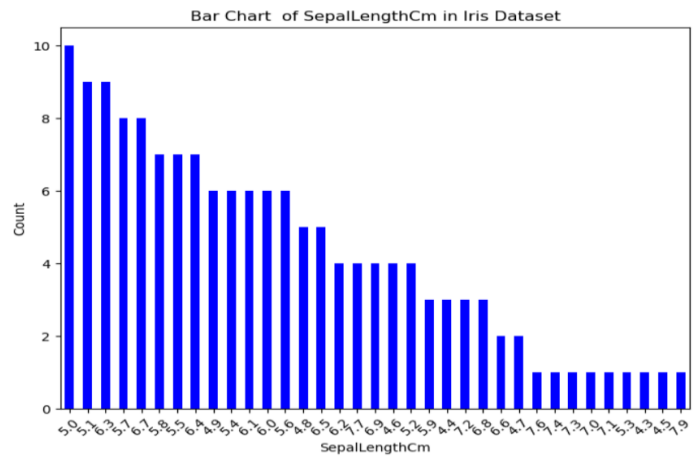
```
[54]: #Create a Bar Chart of SepaWidththCm
plt.figure(figsize=(8,6))
iris[feature_to_plot].value_counts().plot(kind="bar", color="Blue")
plt.title(f"Bar Chart  of {feature_to_plot} in Iris Dataset")
plt.xlabel(feature_to_plot)
plt.ylabel("Count")
plt.xticks(rotation=45)
plt.show()
```



2. SepalLengthCm

```
56]: #Select the feature you want to visualize
feature_to_plot = "SepalLengthCm"
```

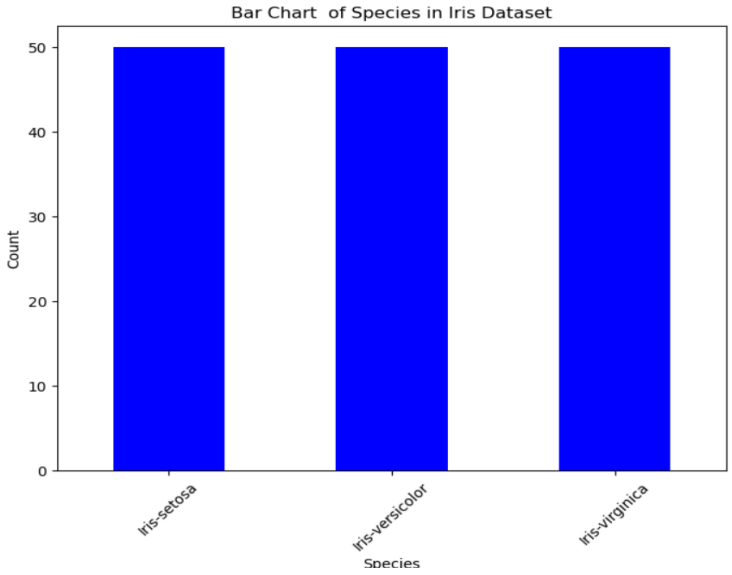
```
58]: #Create a Bar Chart of SepaLengthCm
plt.figure(figsize=(8,6))
iris[feature_to_plot].value_counts().plot(kind="bar", color="Blue")
plt.title(f"Bar Chart  of {feature_to_plot} in Iris Dataset")
plt.xlabel(feature_to_plot)
plt.ylabel("Count")
plt.xticks(rotation=45)
plt.show()
```



3. Species

```
#Select the feature you want to visualize
feature_to_plot = "Species"
```

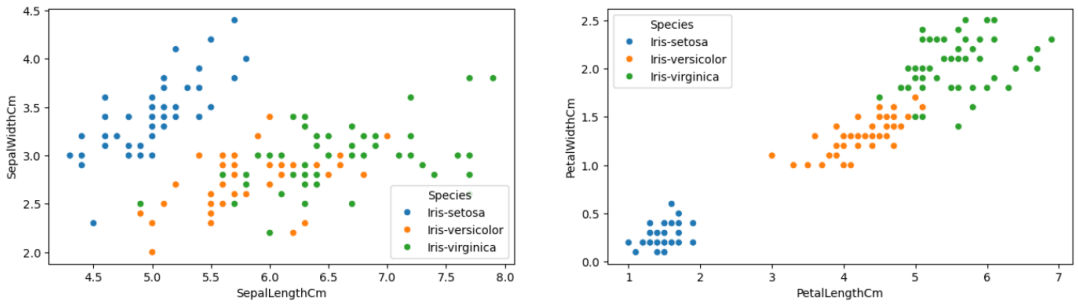
```
#Create a Bar Chart of Species
plt.figure(figsize=(8,6))
iris[feature_to_plot].value_counts().plot(kind="bar", color="Blue")
plt.title(f"Bar Chart  of {feature_to_plot} in Iris Dataset")
plt.xlabel(feature_to_plot)
plt.ylabel("Count")
plt.xticks(rotation=45)
plt.show()
```



4. Plotting the Scatter

```
#Ploting a Scatter Plot
fig, ax = plt.subplots(ncols=2, figsize=(16 , 4))
sns.scatterplot(iris, x='SepalLengthCm', y='SepalWidthCm', hue='Species', ax=ax[0])
sns.scatterplot(iris, x='PetalLengthCm', y='PetalWidthCm', hue='Species', ax=ax[1])
```

```
<Axes: xlabel='PetalLengthCm', ylabel='PetalWidthCm'>
```



By

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