

Lab Session: Data Visualization with Matplotlib and Seaborn using the Iris Dataset

Importing Libraries

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

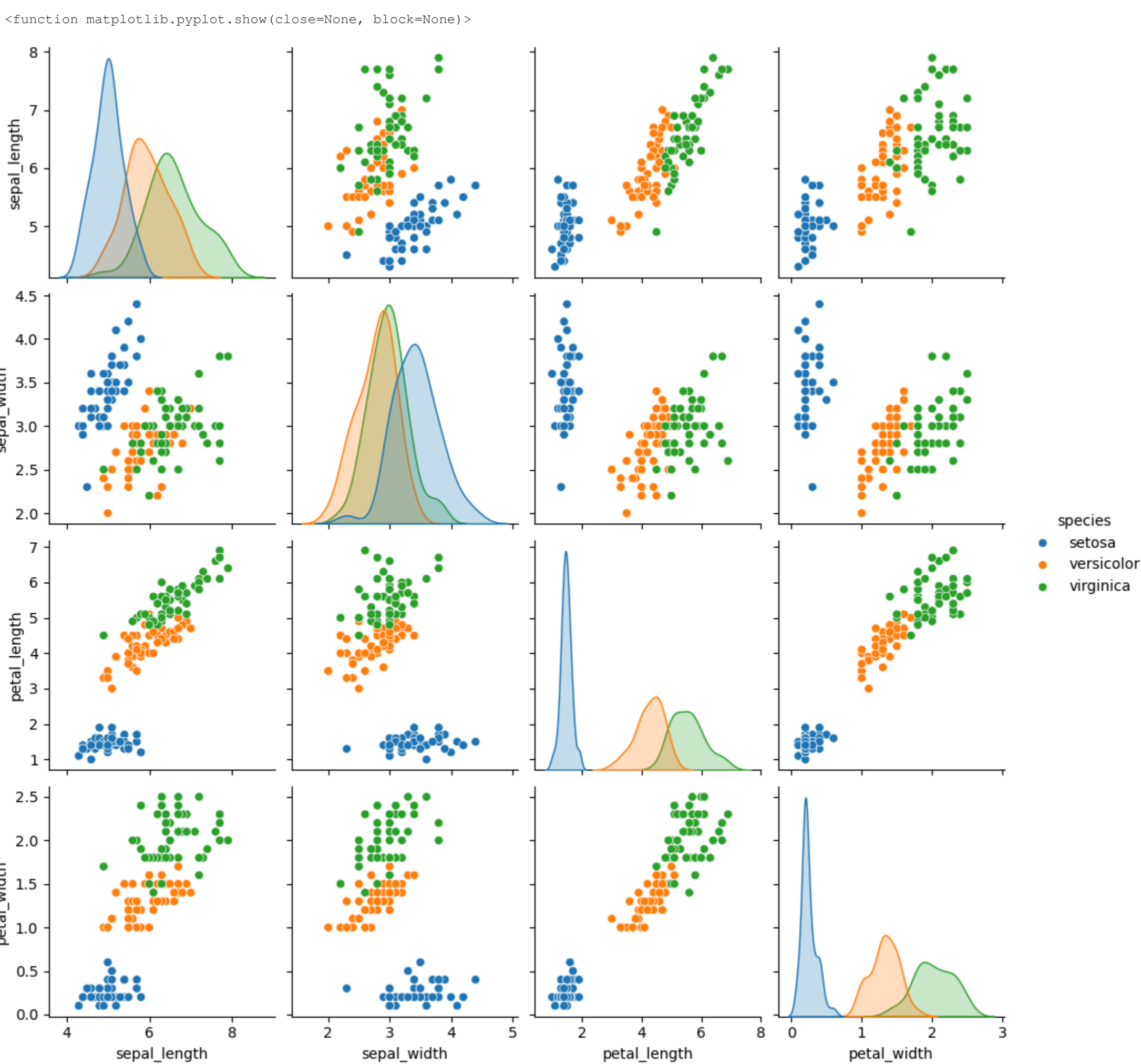
In [9]: iris= sns.load_dataset('iris')

In [10]: iris.head()
```

	sepal_length	sepal_width	petal_length	petal_width	species
0	5.1	3.5	1.4	0.2	setosa
1	4.9	3.0	1.4	0.2	setosa
2	4.7	3.2	1.3	0.2	setosa
3	4.6	3.1	1.5	0.2	setosa
4	5.0	3.6	1.4	0.2	setosa

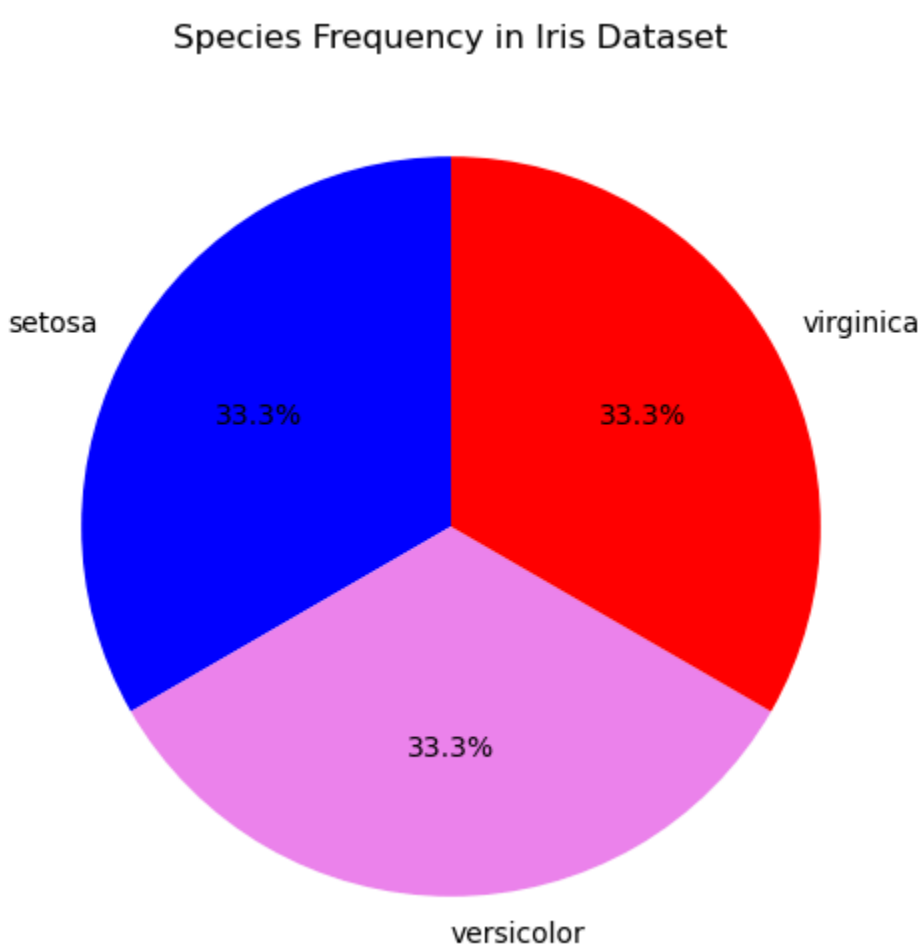
1. General Statistics Plot (Matplotlib or Seaborn):

```
In [11]: sns.pairplot(iris, hue='species', height=2.5)
plt.show
```



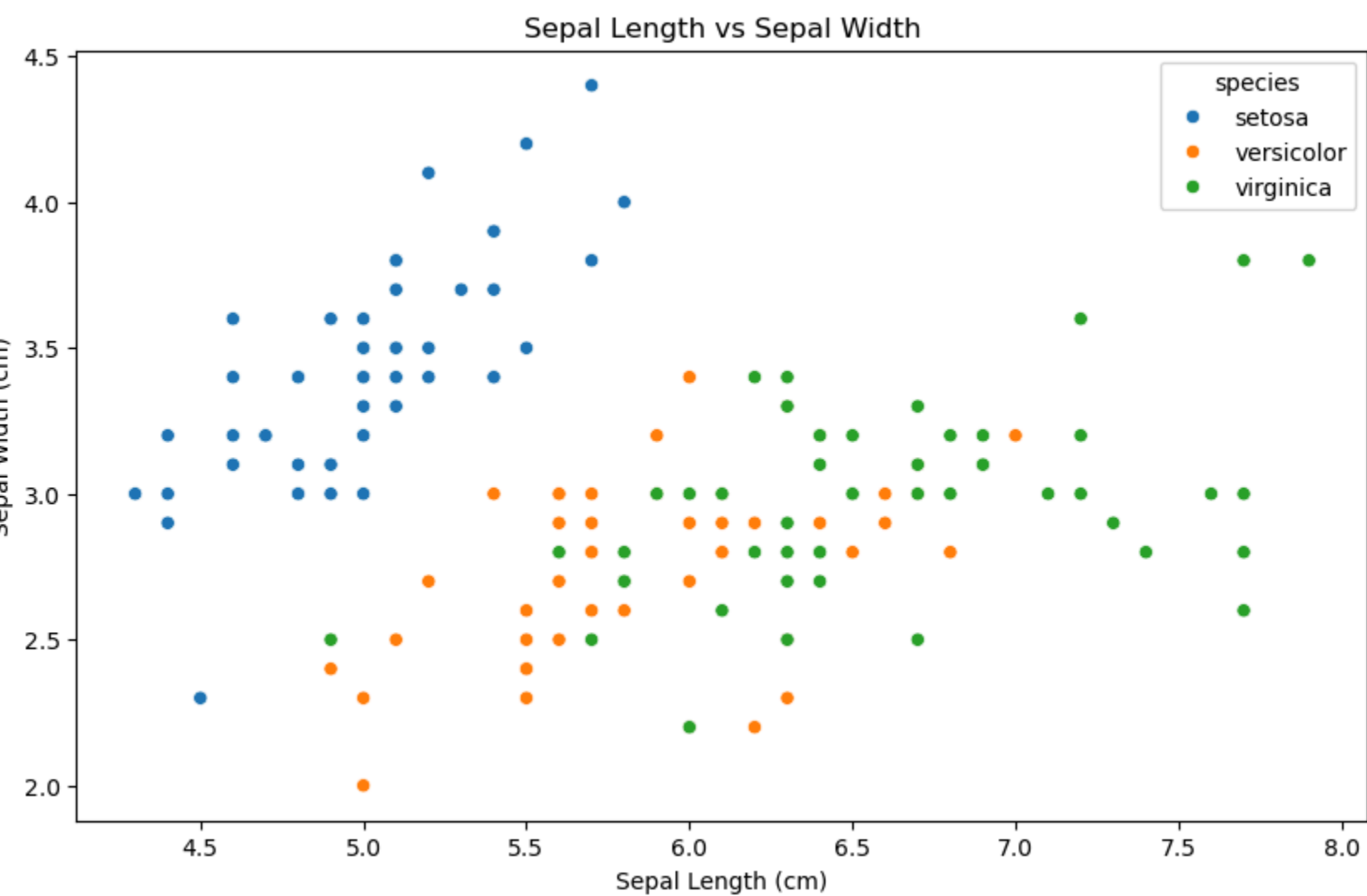
2. Pie Plot for Species Frequency:

```
In [14]: species_counts = iris['species'].value_counts() # Add parentheses to call the function
plt.figure(figsize=(6,6))
plt.pie(species_counts, labels=species_counts.index, autopct='%1.1f%%', startangle=90, colors=['blue', 'violet', 'red'])
plt.title('Species Frequency in Iris Dataset')
plt.show()
```



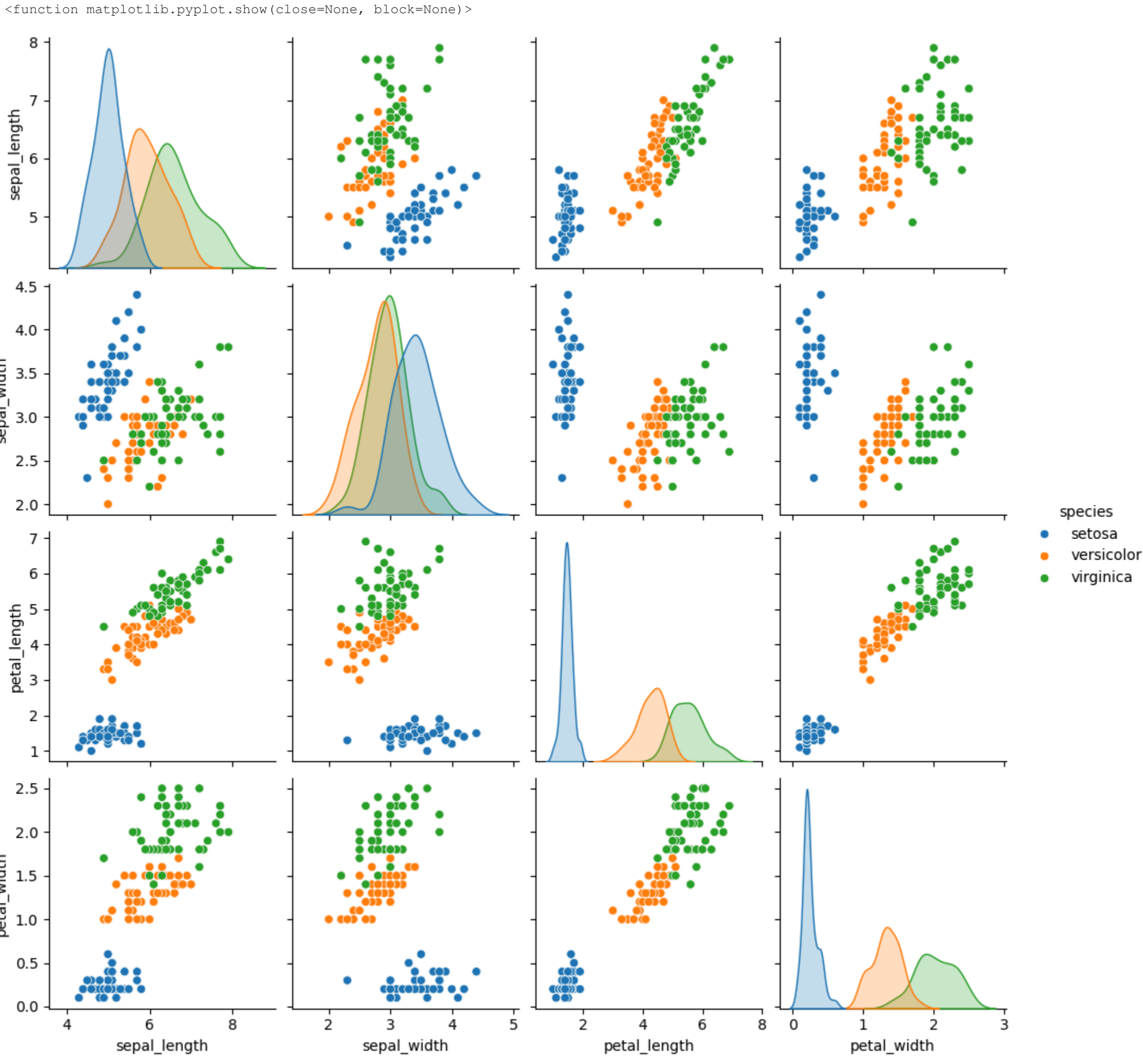
3. Relationship Between Sepal Length and Sepal Width:

```
In [15]: plt.figure(figsize=(10, 6))
sns.scatterplot(x='sepal_length', y='sepal_width', hue='species', data=iris)
plt.title('Sepal Length vs Sepal Width')
plt.xlabel('Sepal Length (cm)')
plt.ylabel('Sepal Width (cm)')
plt.show()
```



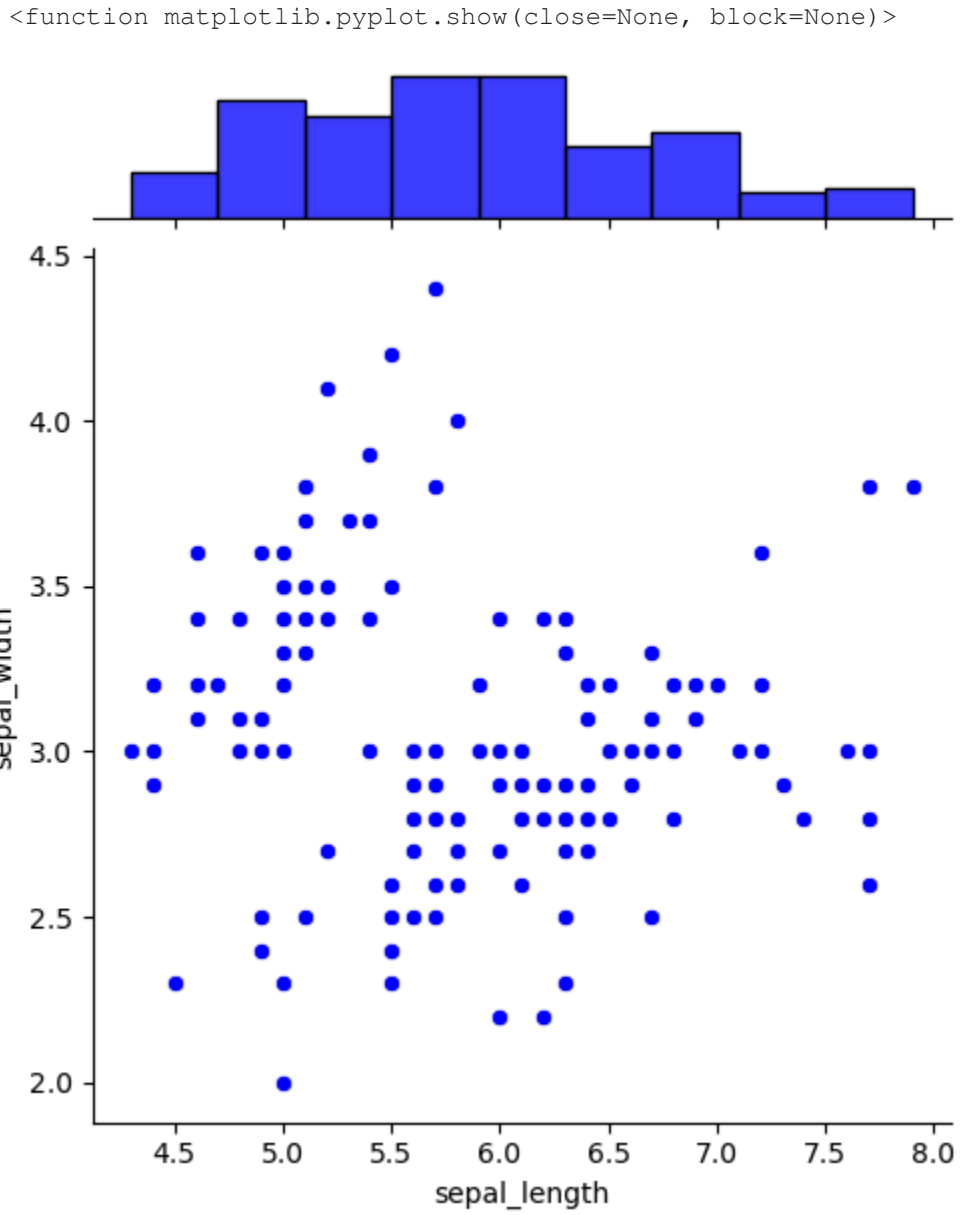
4. Distribution of Sepal and Petal Features:

```
In [16]: sns.pairplot(iris,hue='species',height=2.5)
plt.show
```



5. Jointplot of Sepal Length vs Sepal Width:

```
In [17]: sns.jointplot(x='sepal_length',y='sepal_width',data=iris,kind='scatter',color='b')
plt.show
```



6.KDE Plot for Setosa Species (Sepal Length vs Sepal Width):

```
In [18]: setosa=iris[iris['species']=='setosa']
sns.kdeplot(x='sepal_length',y='sepal_width',data=setosa,shade=True,cmap='coolwarm')
plt.title('KDE Plot of Sepal Length vs Sepal Width (Setosa)')
plt.show
```

C:\Users\chenn\AppData\Local\Temp\ipykernel_15572\276397530.py:2: FutureWarning:
'shade' is now deprecated in favor of 'fill': setting 'fill=True'.
This will become an error in seaborn v0.14.0; please update your code.

```
sns.kdeplot(x='sepal_length',y='sepal_width',data=setosa,shade=True,cmap='coolwarm')
```

Out[18]: <function matplotlib.pyplot.show(close=None, block=None)>

