Data Visualization with Matplotlib and Seaborn using the Iris Dataset

```
import seaborn as sns
import matplotlib.pyplot as plt
```

LOADING IRIS DATASET

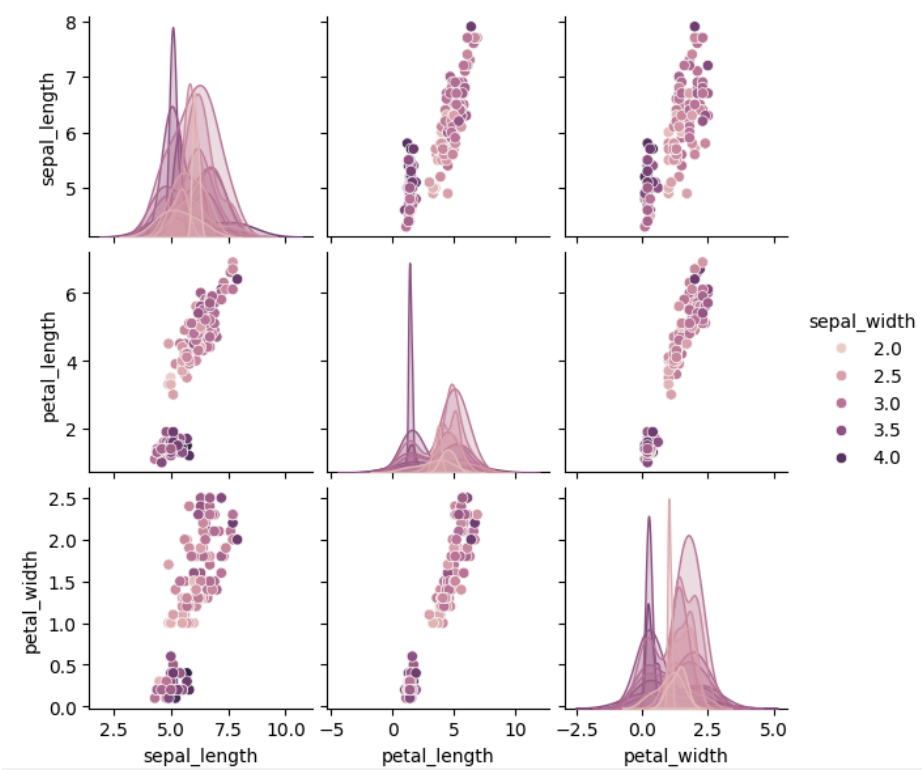
```
iris=sns.load_dataset('iris')
iris
```

	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
...	...	...	...	...	...
145	6.7	3.0	5.2	2.3	virginica
146	6.3	2.5	5.0	1.9	virginica
147	6.5	3.0	5.2	2.0	virginica
148	6.2	3.4	5.4	2.3	virginica
149	5.9	3.0	5.1	1.8	virginica

150 rows × 5 columns

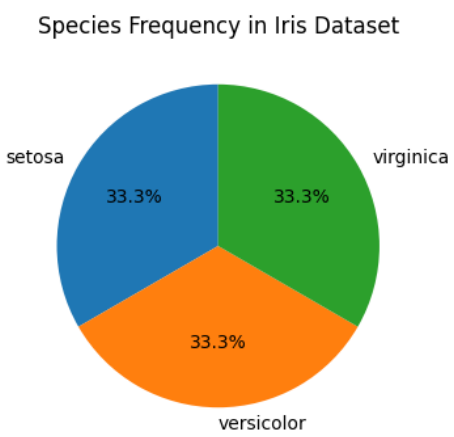
1. General Statistics Plot (Matplotlib or Seaborn):

```
sns.pairplot(iris, hue='sepal_width', height=2.0)
plt.show()
```



2. Pie Plot for Species Frequency:

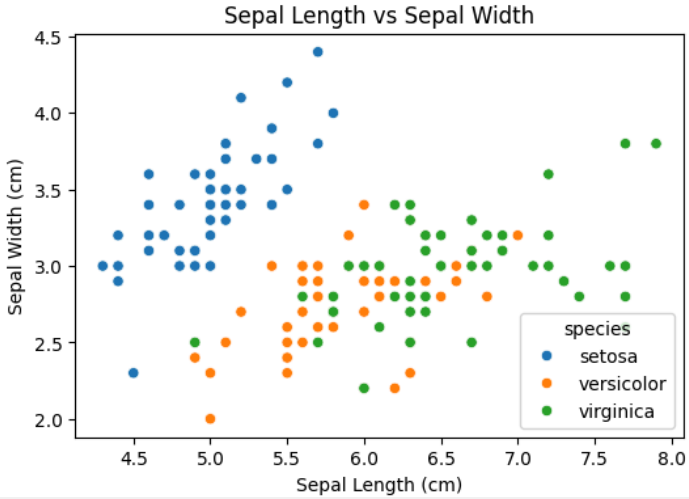
```
species_counts = iris['species'].value_counts()
plt.figure(figsize=(4,4))
plt.pie(species_counts, labels=species_counts.index, autopct='%1.1f%%', startangle=90)
plt.title('Species Frequency in Iris Dataset')
plt.show()
```



3. Relationship Between Sepal Length and Sepal Width:

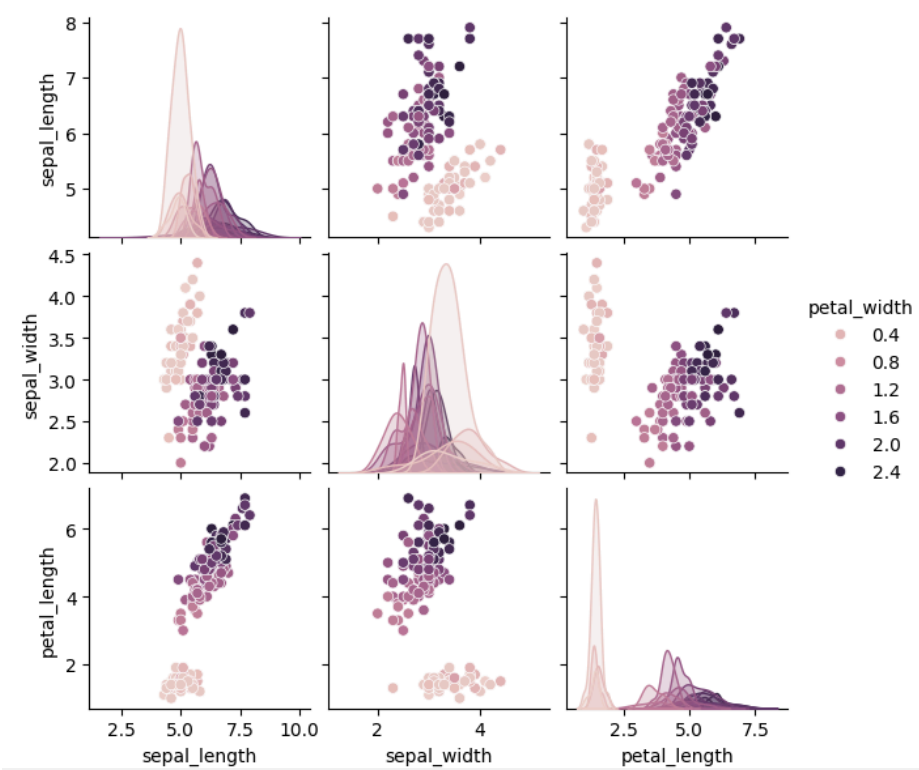
```
plt.figure(figsize=(6, 4))
sns.scatterplot(x='sepal_length', y='sepal_width', hue='species', data=iris)
plt.title('Sepal Length vs Sepal Width')
plt.xlabel('Sepal Length (cm)')
```

```
plt.ylabel('Sepal Width (cm)')
plt.show()
```



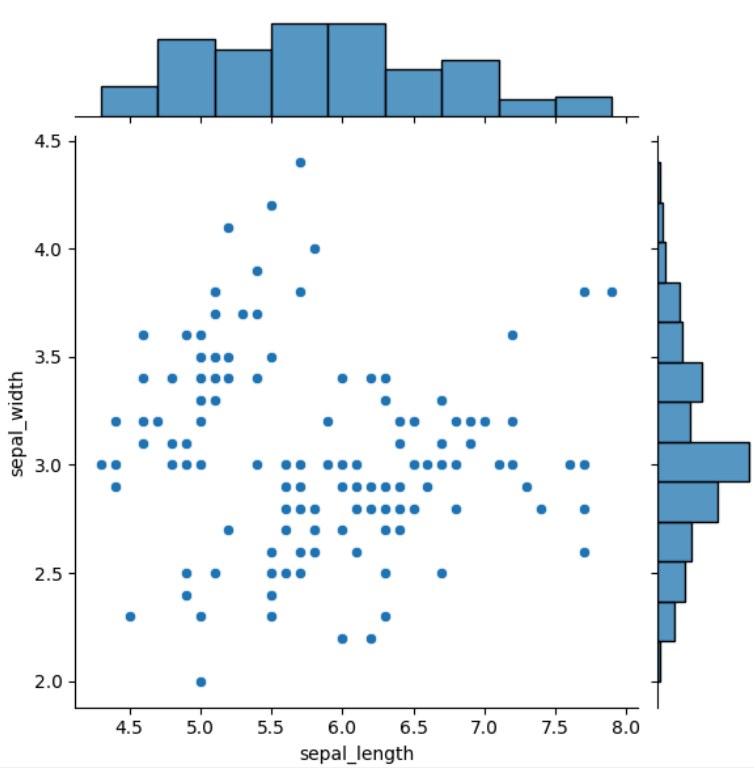
4. Distribution of Sepal and Petal Features:

```
sns.pairplot(iris, hue='petal_width', height=2.0)
plt.show()
```



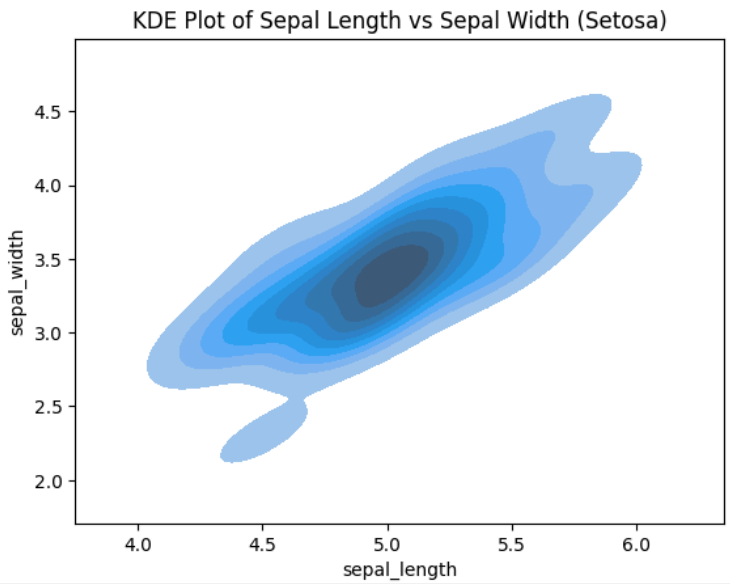
5. Jointplot of Sepal Length vs Sepal Width:

```
sns.jointplot(x='sepal_length', y='sepal_width', data=iris, kind='scatter')
plt.show()
```



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

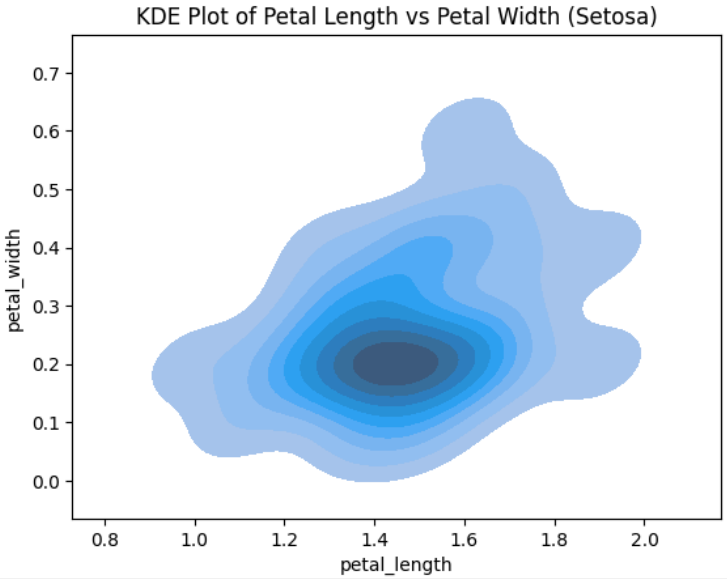
```
setosa = iris[iris['species'] == 'setosa']
sns.kdeplot(x='sepal_length', y='sepal_width', data=setosa, fill=True)
plt.title('KDE Plot of Sepal Length vs Sepal Width (Setosa)')
plt.show()
```



7. KDE Plot for Setosa Species (Petal Length vs Petal Width):

```
sns.kdeplot(x='petal_length', y='petal_width', data=setosa, fill=True)
plt.title('KDE Plot of Petal Length vs Petal Width (Setosa)')
plt.show()
```

[↓]


KDE Plot of Petal Length vs Petal Width (Setosa)
petal_width
petal_length
0.0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
1.0
1.2
1.4
1.6
1.8
2.0