

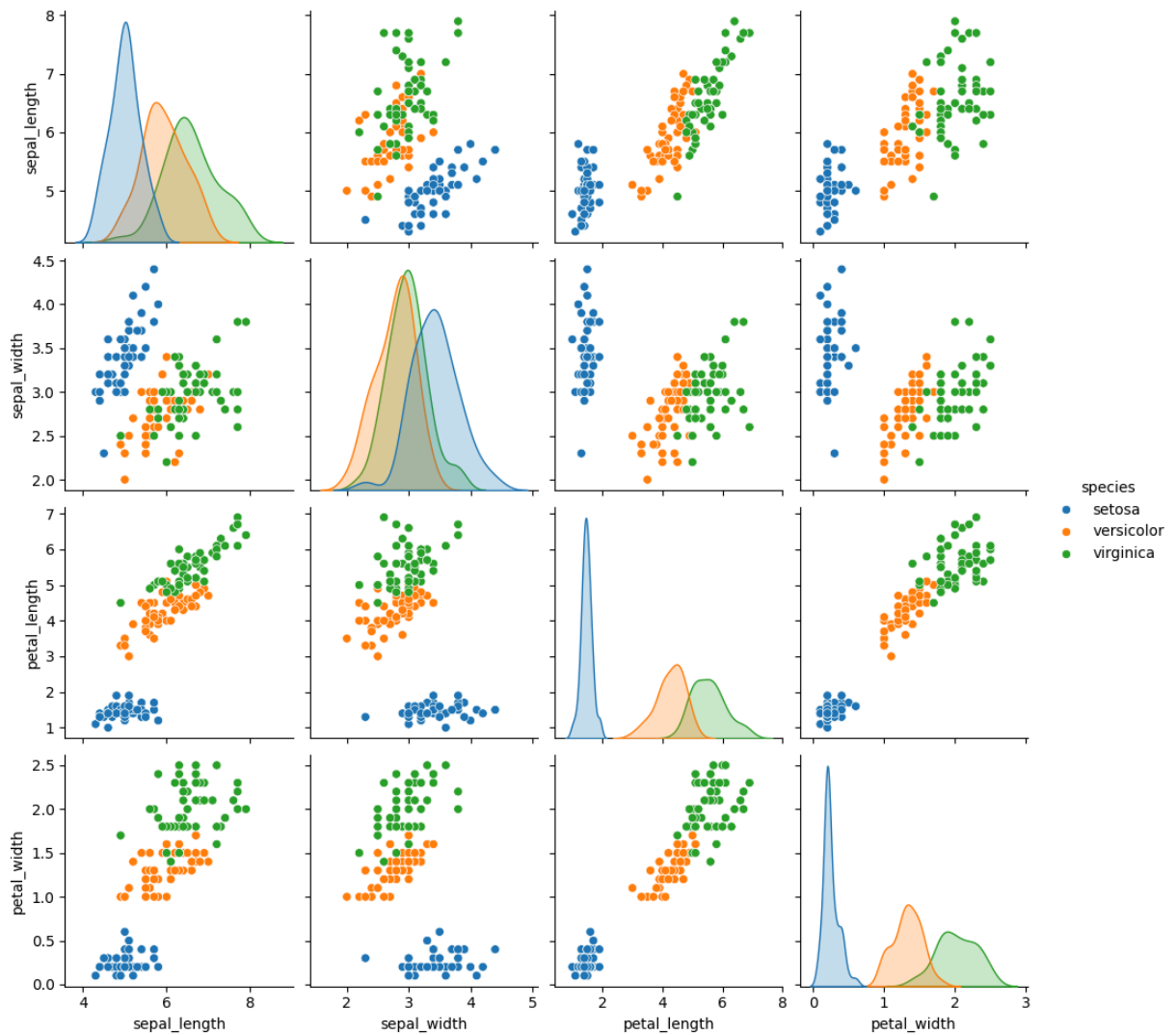
```
In [ ]: import seaborn as sns
import matplotlib.pyplot as plt
iris=sns.load_dataset('iris')
print(iris)
```

	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 x 5 columns]

****1. General Statistics Plot (Matplotlib or Seaborn): ****

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



2. Pie Plot for Species Frequency:

```
In [ ]: import matplotlib.pyplot as plt
from sklearn.datasets import load_iris
import pandas as pd

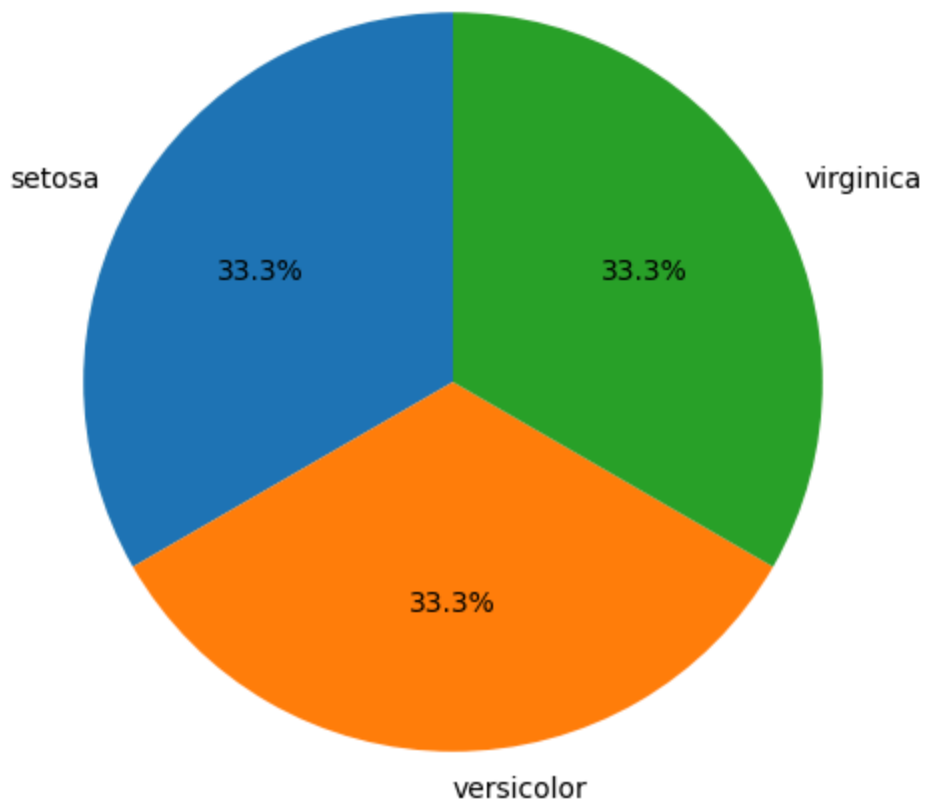
iris = load_iris()
iris_df = pd.DataFrame(data=iris.data, columns=iris.feature_names)
iris_df['species'] = iris.target

species_mapping = {i: species for i, species in enumerate(iris.target_names)}
iris_df['species'] = iris_df['species'].map(species_mapping)

species_counts = iris_df['species'].value_counts()

plt.figure(figsize=(6, 6))
plt.pie(species_counts, labels=species_counts.index, autopct="%1.1f%%", startangle=90)
plt.title('Species Frequency in Iris Dataset')
plt.show()
```

Species Frequency in Iris Dataset



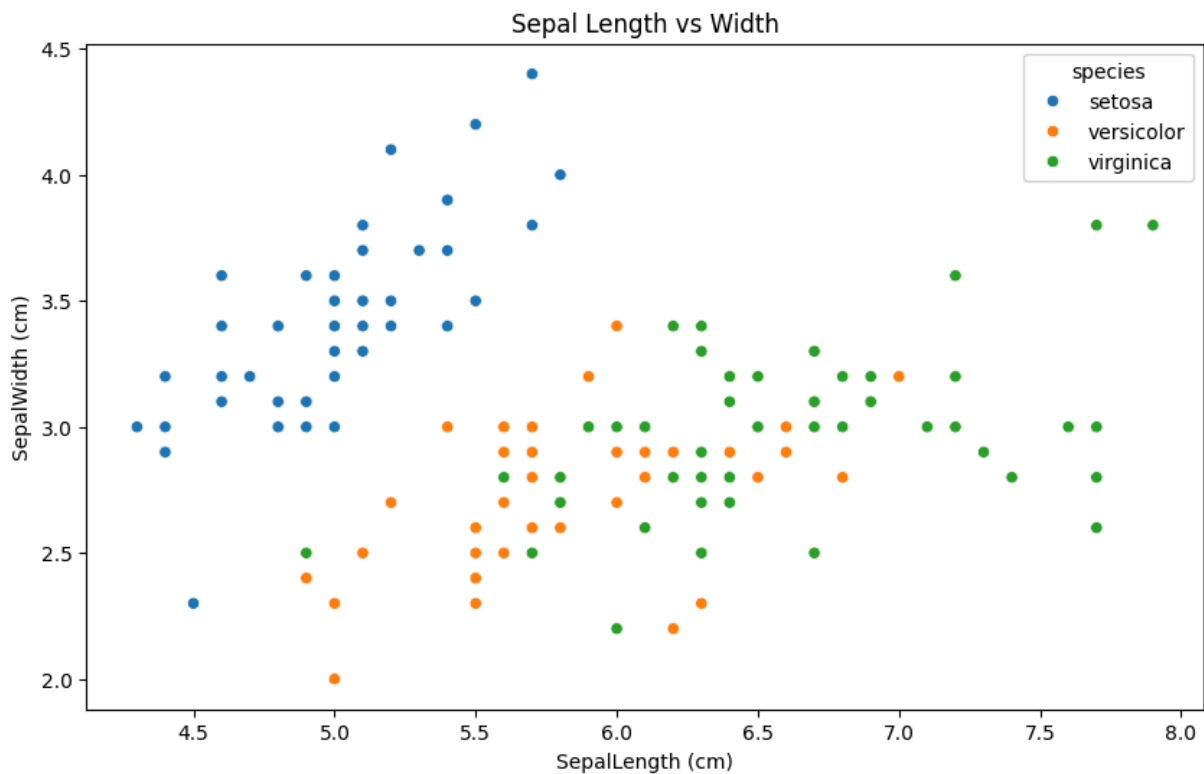
****3. Relationship Between Sepal Length and Width: ****

```
In [ ]: import seaborn as sns
import matplotlib.pyplot as plt
from sklearn.datasets import load_iris
import pandas as pd

iris = load_iris()
iris_df = pd.DataFrame(data=iris.data, columns=iris.feature_names)
iris_df['species'] = iris.target

species_mapping = {i: species for i, species in enumerate(iris.target_names)}
iris_df['species'] = iris_df['species'].map(species_mapping)

plt.figure(figsize=(10, 6))
sns.scatterplot(x='sepal length (cm)', y='sepal width (cm)', hue='species',
plt.title('Sepal Length vs Width')
plt.xlabel('SepalLength (cm)')
plt.ylabel('SepalWidth (cm)')
plt.show()
```

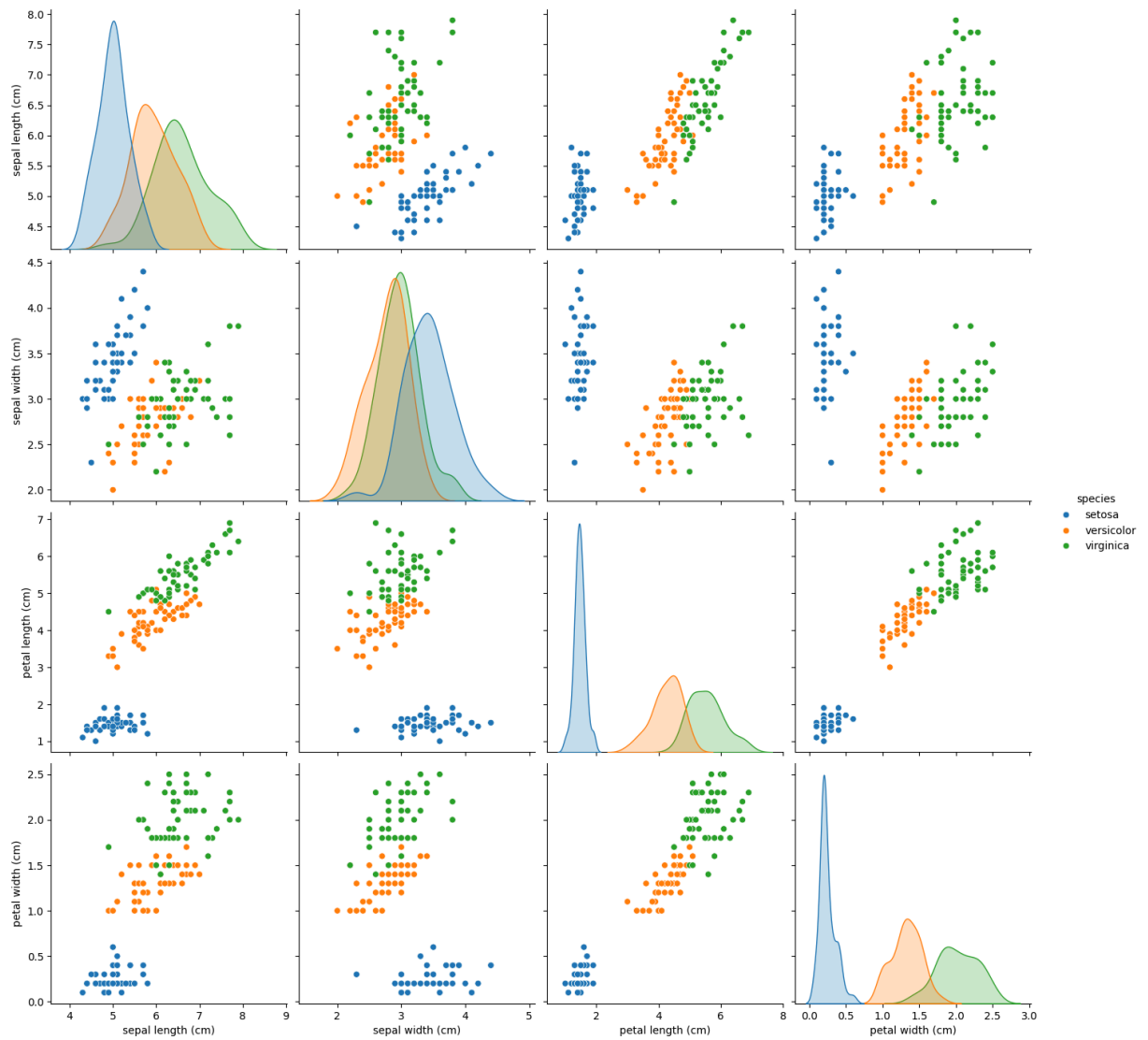


****4. Distribution of Sepal and Petal Features: ****

```
In [1]: import seaborn as sns
import matplotlib.pyplot as plt
from sklearn.datasets import load_iris
import pandas as pd

iris_data = load_iris()
iris = pd.DataFrame(data=iris_data.data, columns=iris_data.feature_names)
iris['species'] = pd.Categorical.from_codes(iris_data.target, iris_data.target_names)

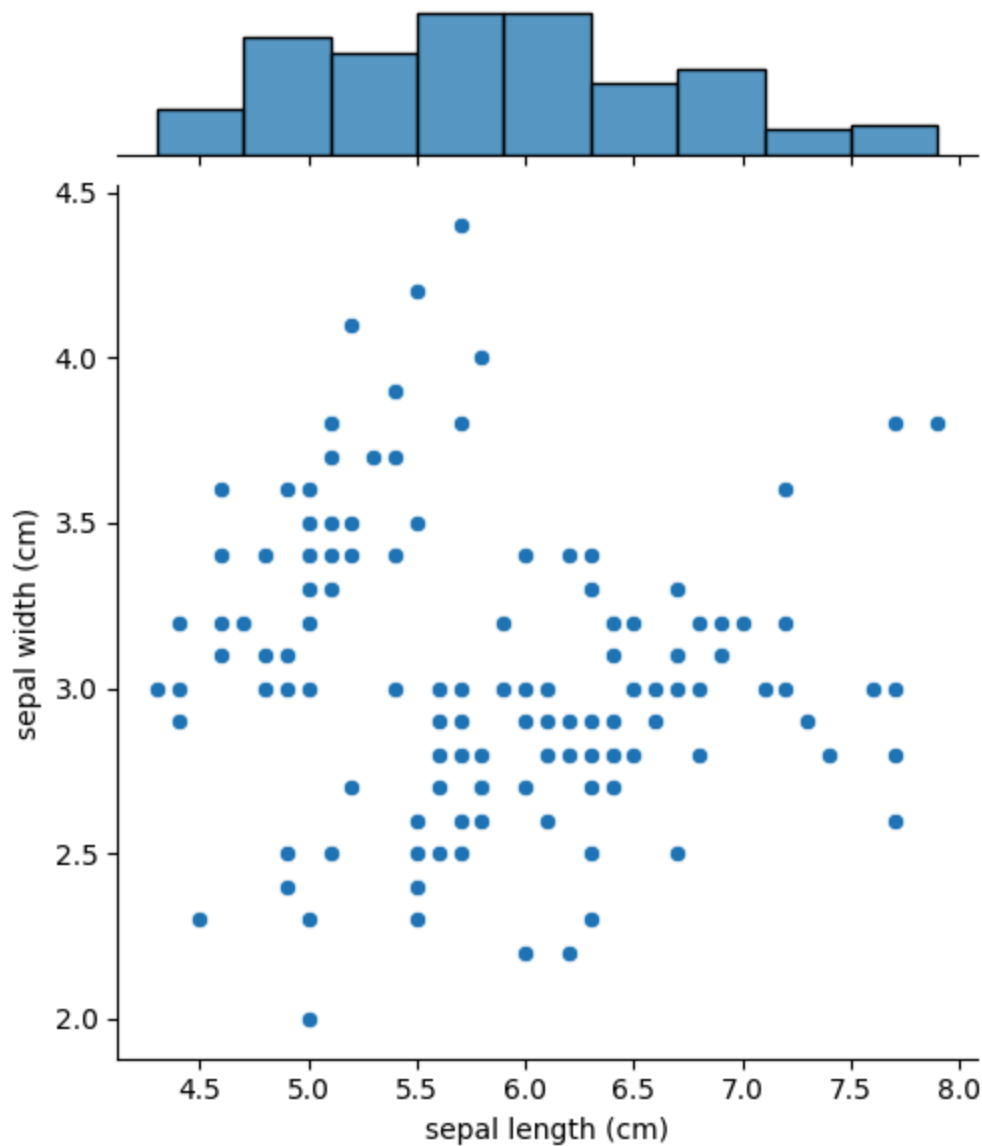
sns.pairplot(iris, hue='species', height=3.5)
plt.show()
```



****5. Jointplot of Sepal Length vs Sepal Width: ****

```
In [5]: import seaborn as sns
import matplotlib.pyplot as plt

sns.jointplot(x='sepal length (cm)', y='sepal width (cm)', data=iris, kind='
plt.show()
```



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

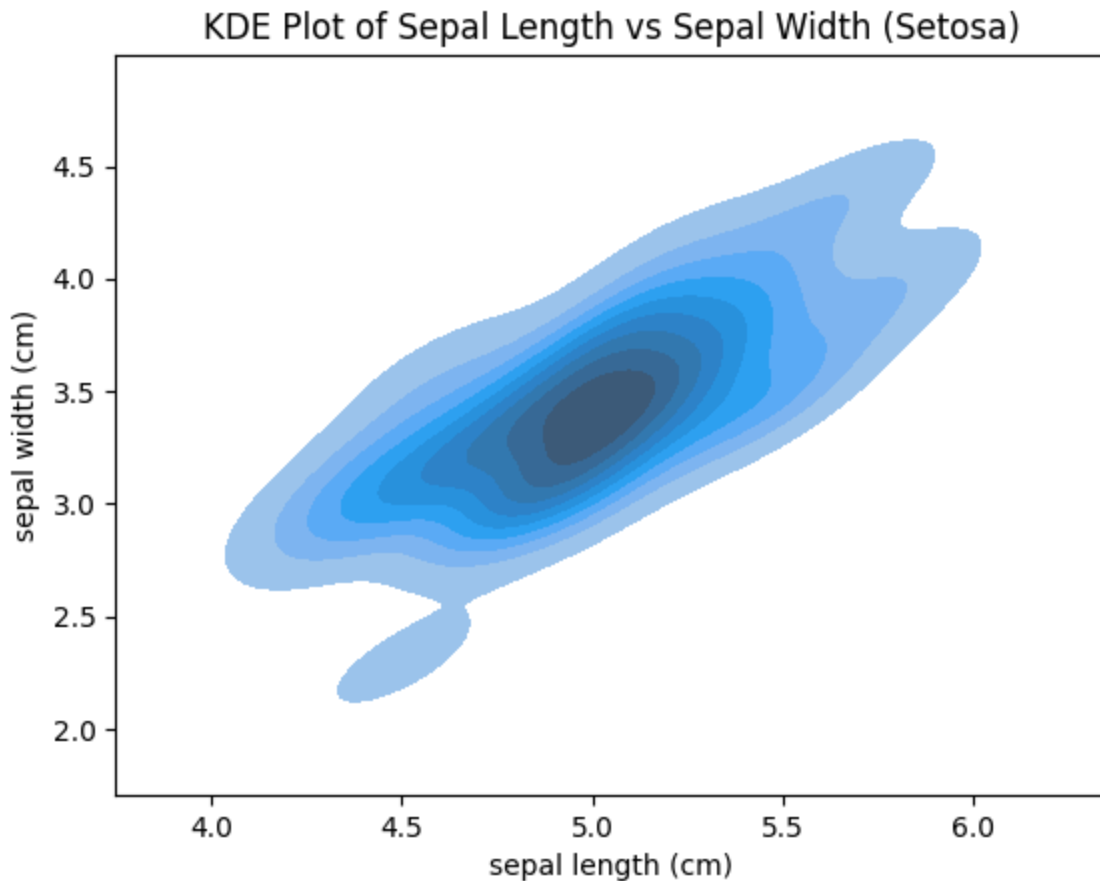
```
In [7]: import seaborn as sns
import matplotlib.pyplot as plt

setosa = iris[iris['species'] == 'setosa']
sns.kdeplot(x='sepal length (cm)', y='sepal width (cm)', data=setosa, shade=
plt.title('KDE Plot of Sepal Length vs Sepal Width (Setosa)')
plt.show()
```

<ipython-input-7-8aef783435f6>:5: 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 (cm)', y='sepal width (cm)', data=setosa, shade=True)
```



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

```
In [11]: import seaborn as sns
import matplotlib.pyplot as plt

sns.kdeplot(x='petal length (cm)', y='petal width (cm)', data=setosa, shade=
plt.title('KDE Plot of Petal Length vs Petal Width (Setosa)')
plt.show()
```

<ipython-input-11-72cf1141e9d8>:4: 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='petal length (cm)', y='petal width (cm)', data=setosa, shade=True)
```

