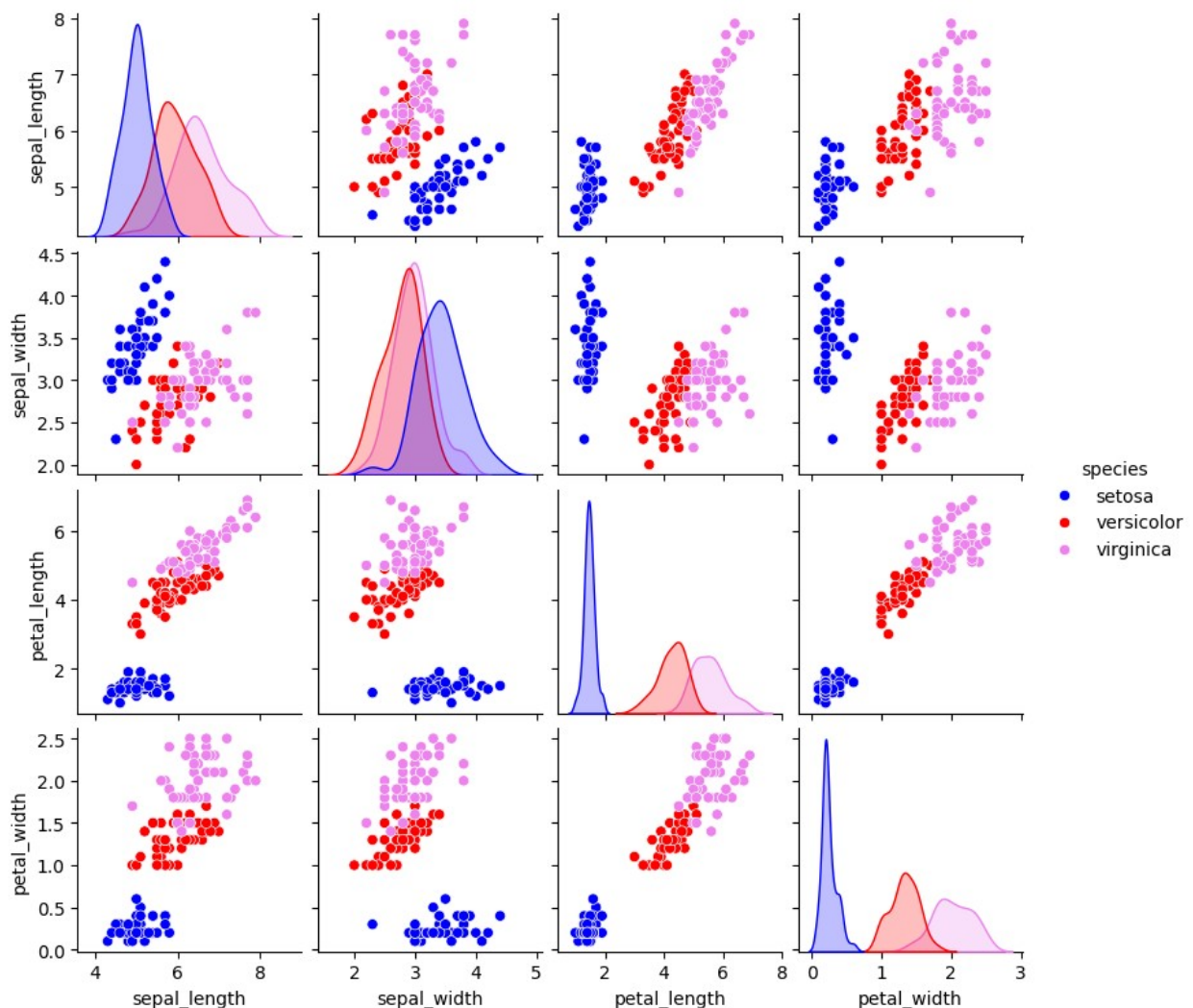


DATA VISUALIZATION USING MATHLAB AND SEABORN

```
import seaborn as sns
import matplotlib.pyplot as plt
iris=sns.load_dataset('iris')
```

1.Generic statistics plot:

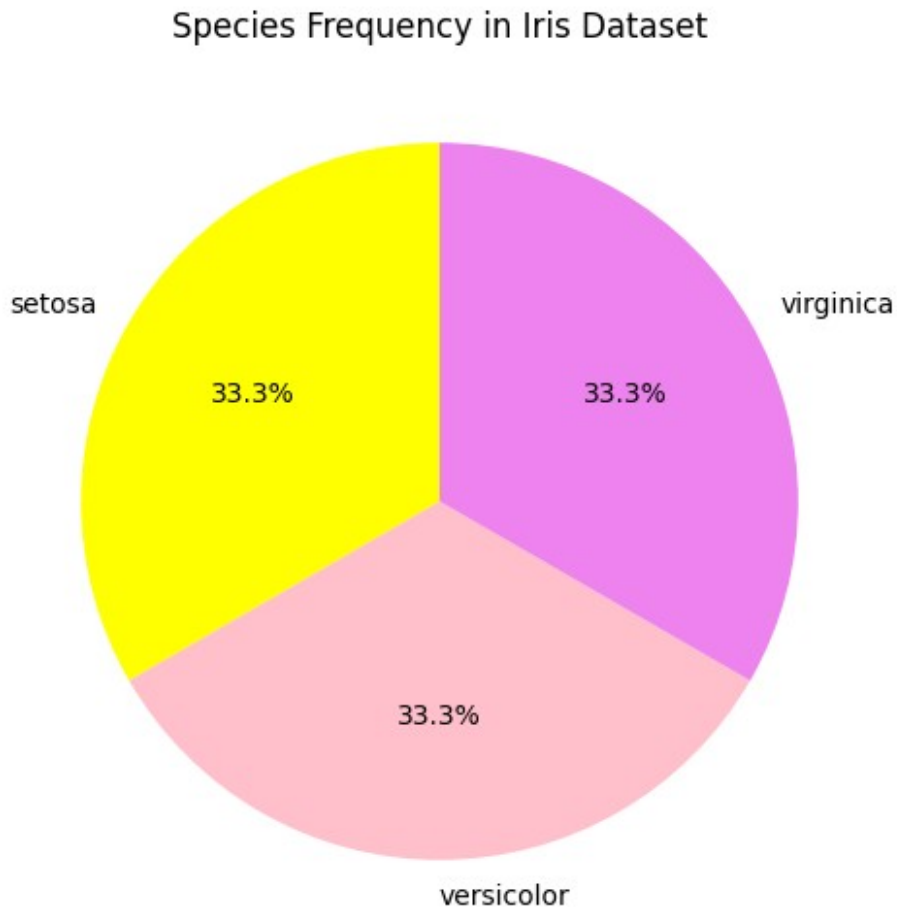
```
sns.pairplot(iris,hue='species',height=2,palette=['blue','red','violet'])
plt.show()
```



2.Pie Plot for Species Frequency:

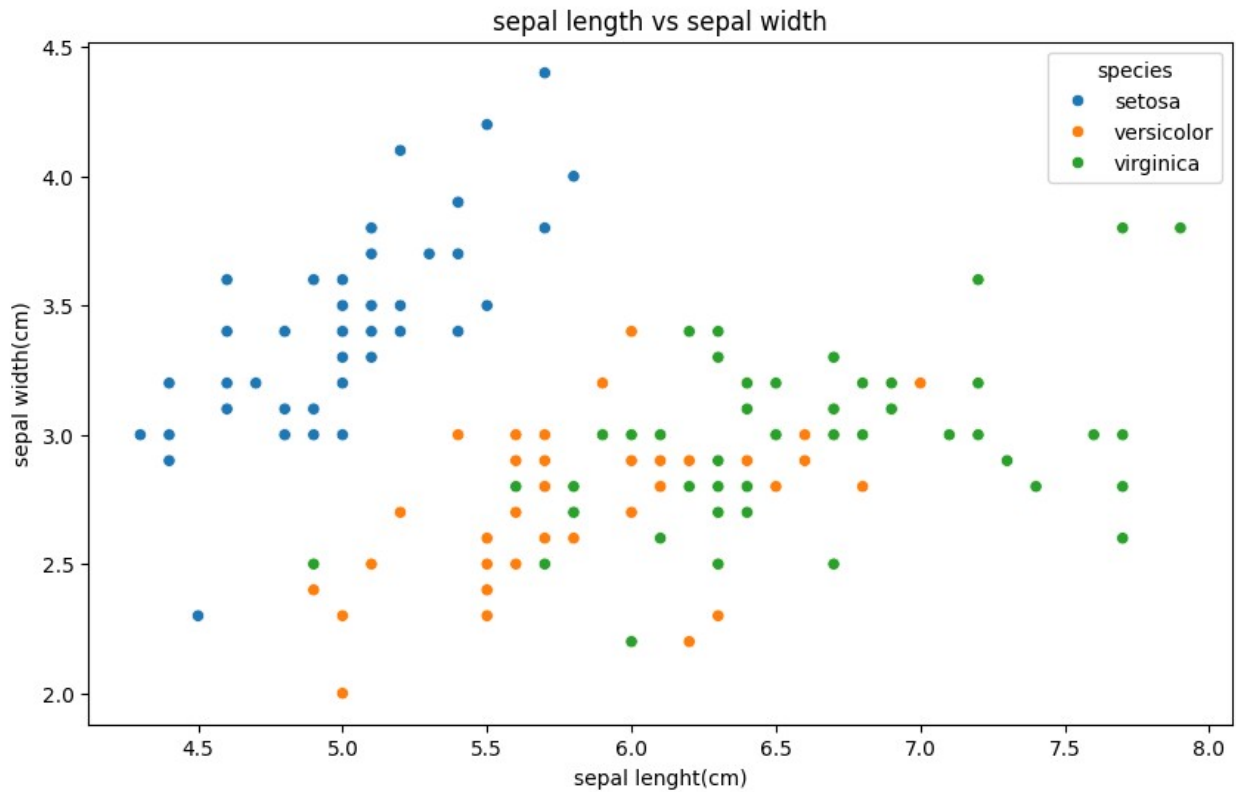
```
species_counts=iris['species'].value_counts()
plt.figure(figsize=(6,6))
```

```
plt.pie(species_counts, labels=species_counts.index, autopct='%1.1f%%', startangle=90, colors=['yellow', 'pink', 'violet'])  
plt.title('Species Frequency in Iris Dataset')  
plt.show()
```



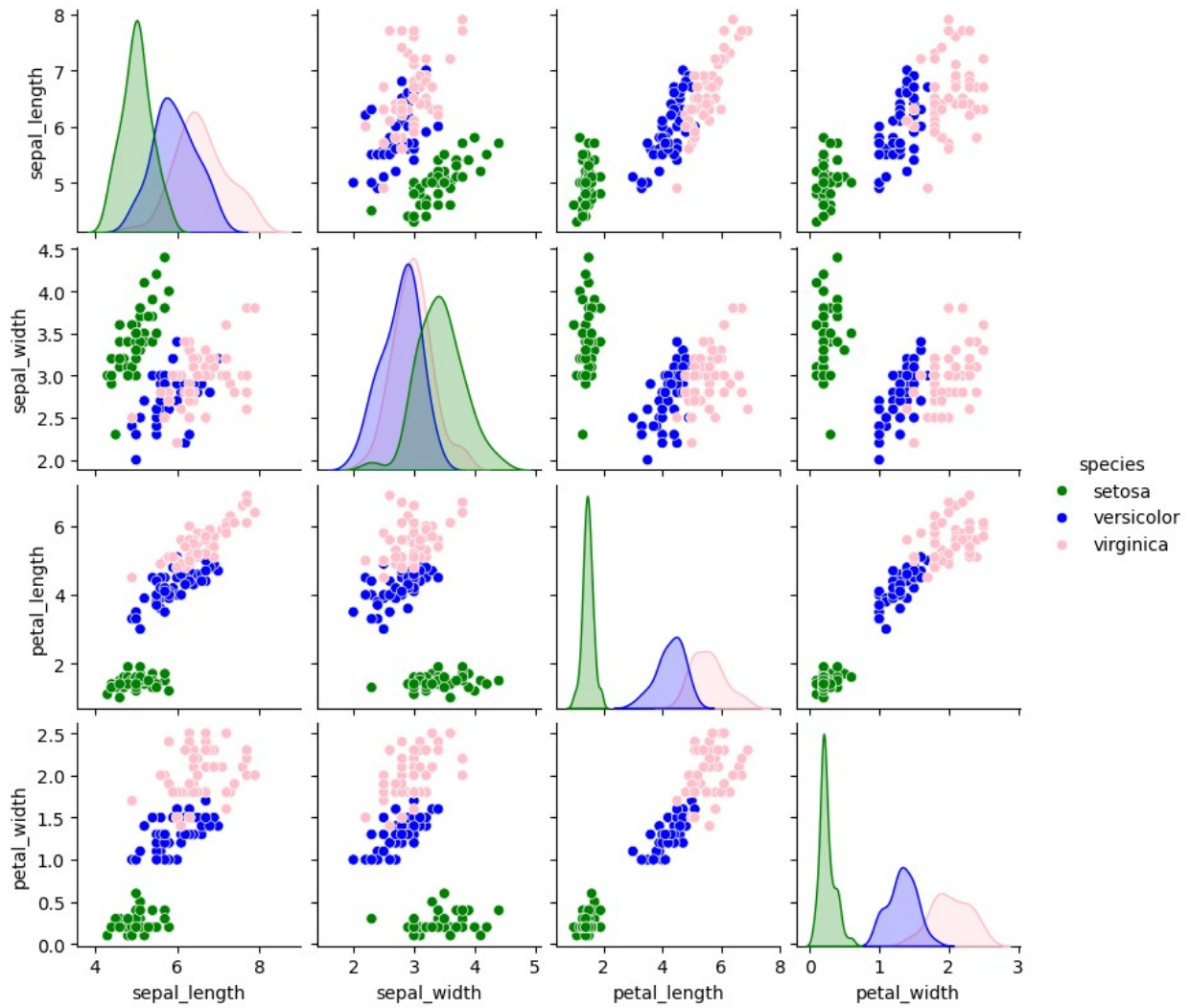
3.Relationship Between Sepal Length and Sepal Width

```
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()
```



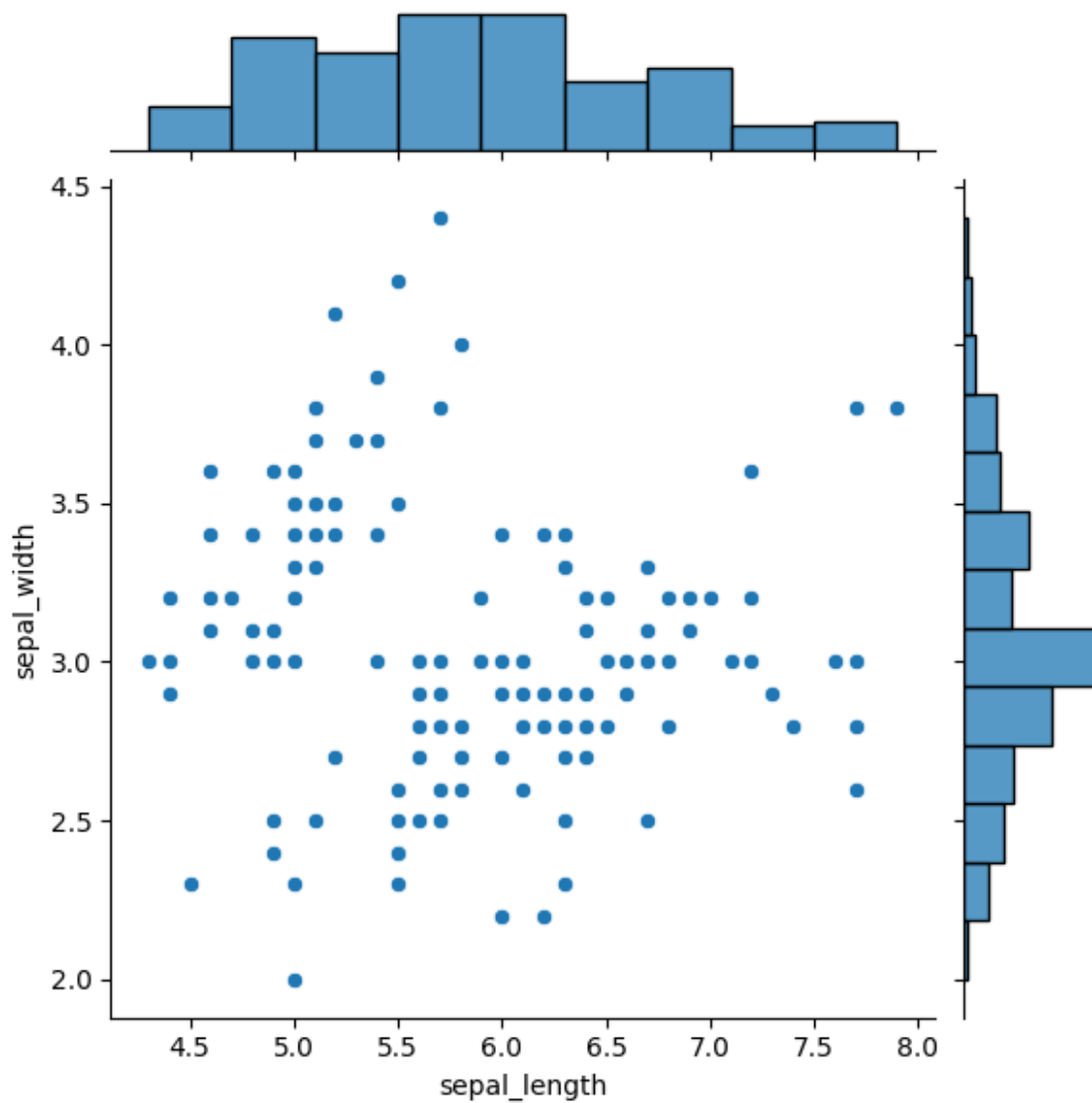
4. Distribution of Sepal and Petal Features

```
sns.pairplot(iris,hue='species',height=2,palette=['green','blue','pink'])  
plt.show()
```



5. Jointplot of Sepal Length vs Sepal Width:

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



6.KDE Plot for Setosa Species

```
setosa=iris[iris['species']=='setosa']
sns.kdeplot(x='sepal_length',y='sepal_width',data=setosa,shade=True)
plt.title('KDE Plot of sepal lenght vs sepal width (setosa)')
plt.show()
```

<ipython-input-36-7d1bd0b736fc>:2: FutureWarning:

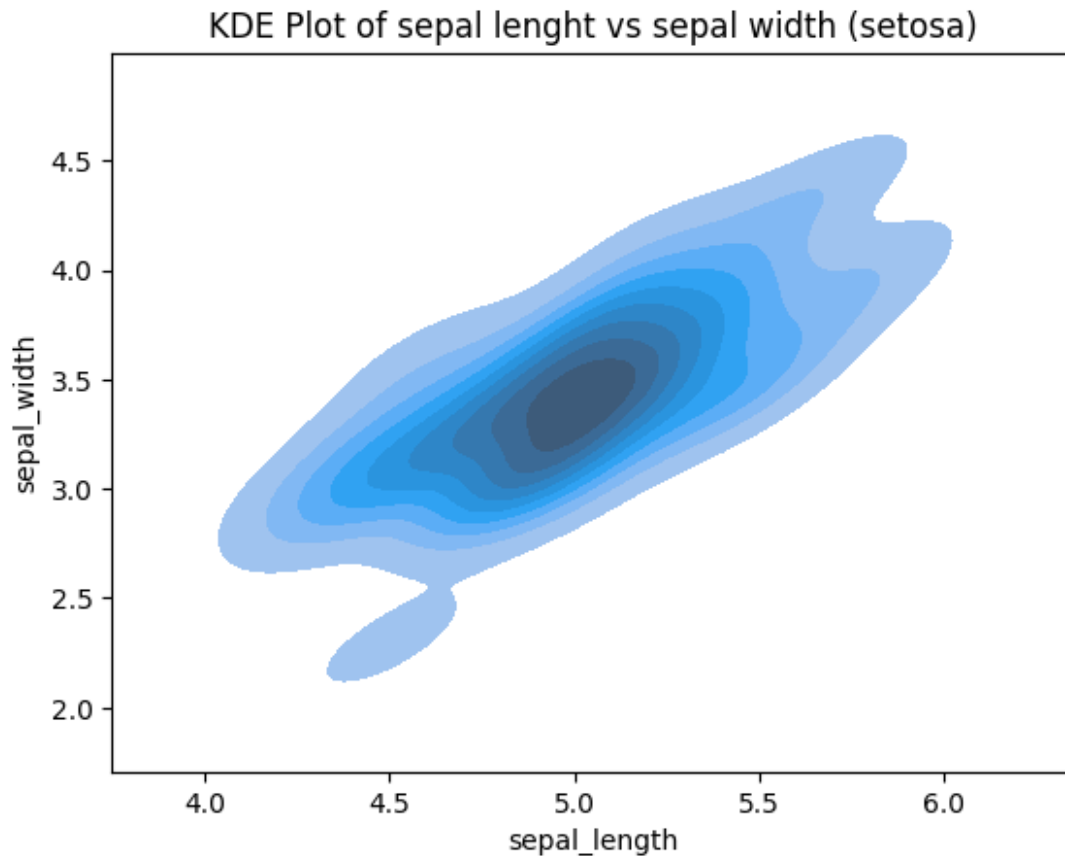
`shade` is now deprecated in favor of `fill`; setting `fill=True`.
This will become an error in seaborn v0.14.0; please update your code.

```
sns.kdeplot(x='sepal_length',y='sepal_width',data=setosa,shade=True,palette=['pink'])
```

<ipython-input-36-7d1bd0b736fc>:2: UserWarning: Ignoring `palette`

because no `hue` variable has been assigned.

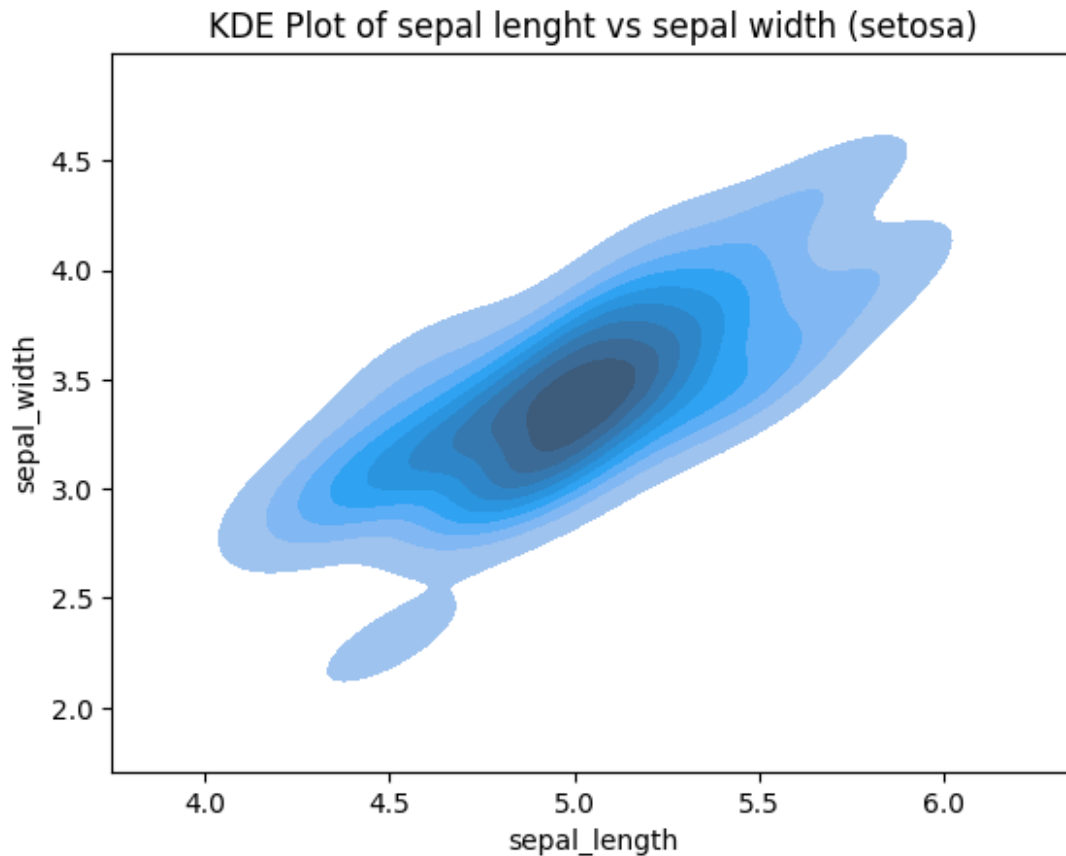
```
sns.kdeplot(x='sepal_length',y='sepal_width',data=setosa,shade=True,palette=['pink'])
```



<ipython-input-37-01607d6af407>: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)
```



7.KDE Plot for Setosa Species

```
sns.kdeplot(x='petal_length',y='petal_width',data=setosa,shade=True)  
plt.title('KDE plot of petal length vs petal width (setosa)')  
plt.show()
```

<ipython-input-18-da833e9010be>:1: 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',y='petal_width',data=setosa,shade=True)
```

KDE plot of petal length vs petal width (setosa)

