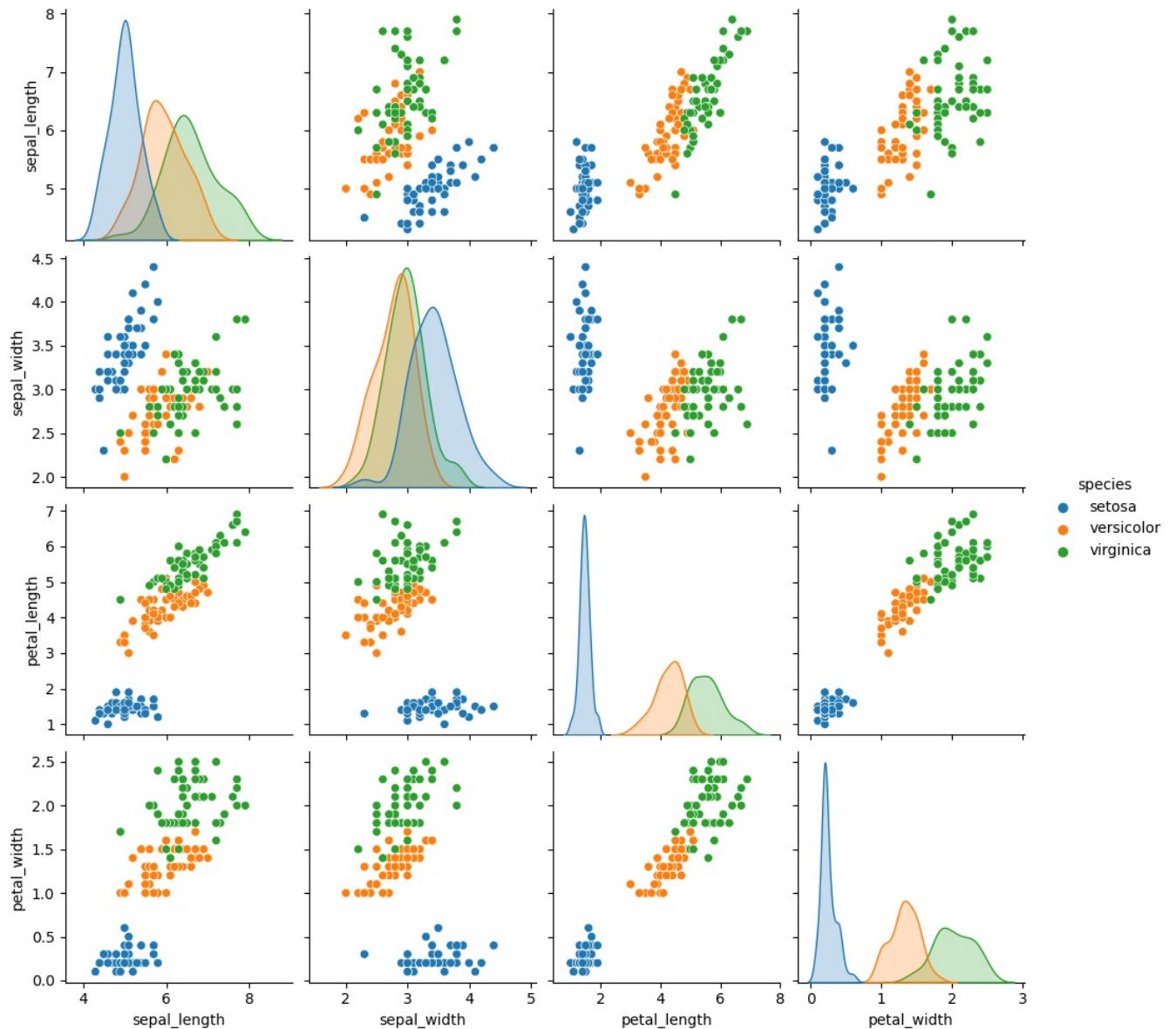


PROBLEM 1: REPRESENTING THE IRIS DATA INTO GENERAL STATIC PLOT BY USING MATPLOTLIB AND SEABORN LIBRARIES THREW IMPORTING THEM

```
In [9]: import seaborn as sns
import matplotlib.pyplot as plt
iris = sns.load_dataset('iris')
sns.pairplot(iris, hue='species', height=2.5)
plt.show()
```

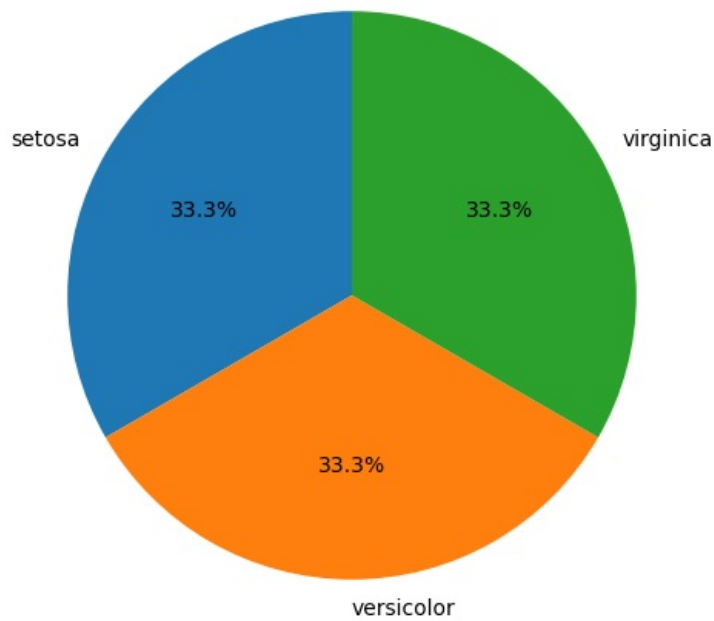
C:\Users\anits-csm\anaconda3\Lib\site-packages\seaborn\axisgrid.py:118: UserWarning: The figure layout has changed to tight
self.figure.tight_layout(*args, **kwargs)



PROBLEM 2: CREATING A PIECHART OF ALL THE THREE SPECIES FREQUENCY IN DIFFRENT COLOURS AND THE VALUES

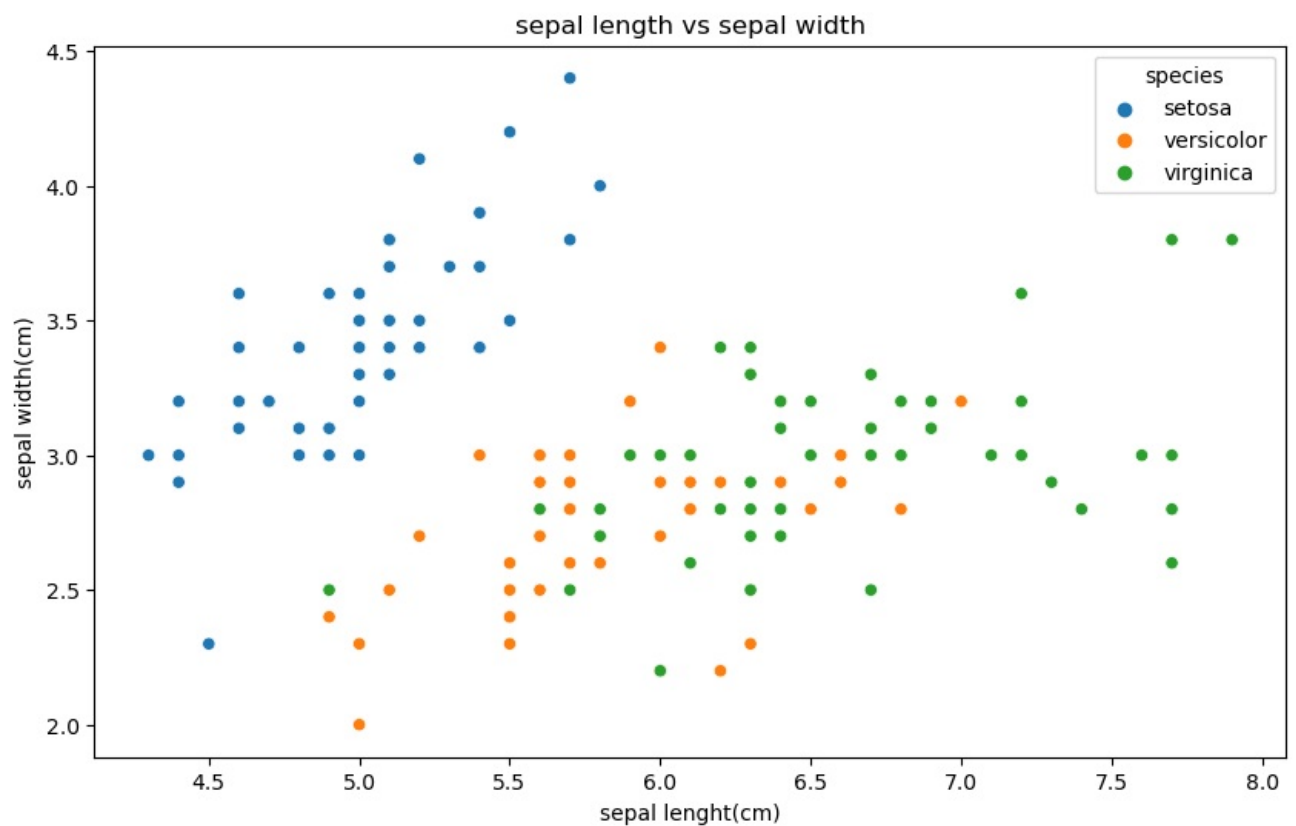
```
In [8]: species_counts = iris['species'].value_counts()
plt.figure(figsize=(6,6))
plt.pie(species_counts, labels=species_counts.index, autopct='%1.1f%%', startangle=90)
plt.title('species frequency in iris dataset')
plt.show()
```

species frequency in iris dataset



PROBLEM 3: CREATING A DATA VISUALIZATION OD SCATTERPLOT TO FIND THE SIMILARITY OF SEPAL LENGTH AND SEPAL WIDTH FROM THE DATASET

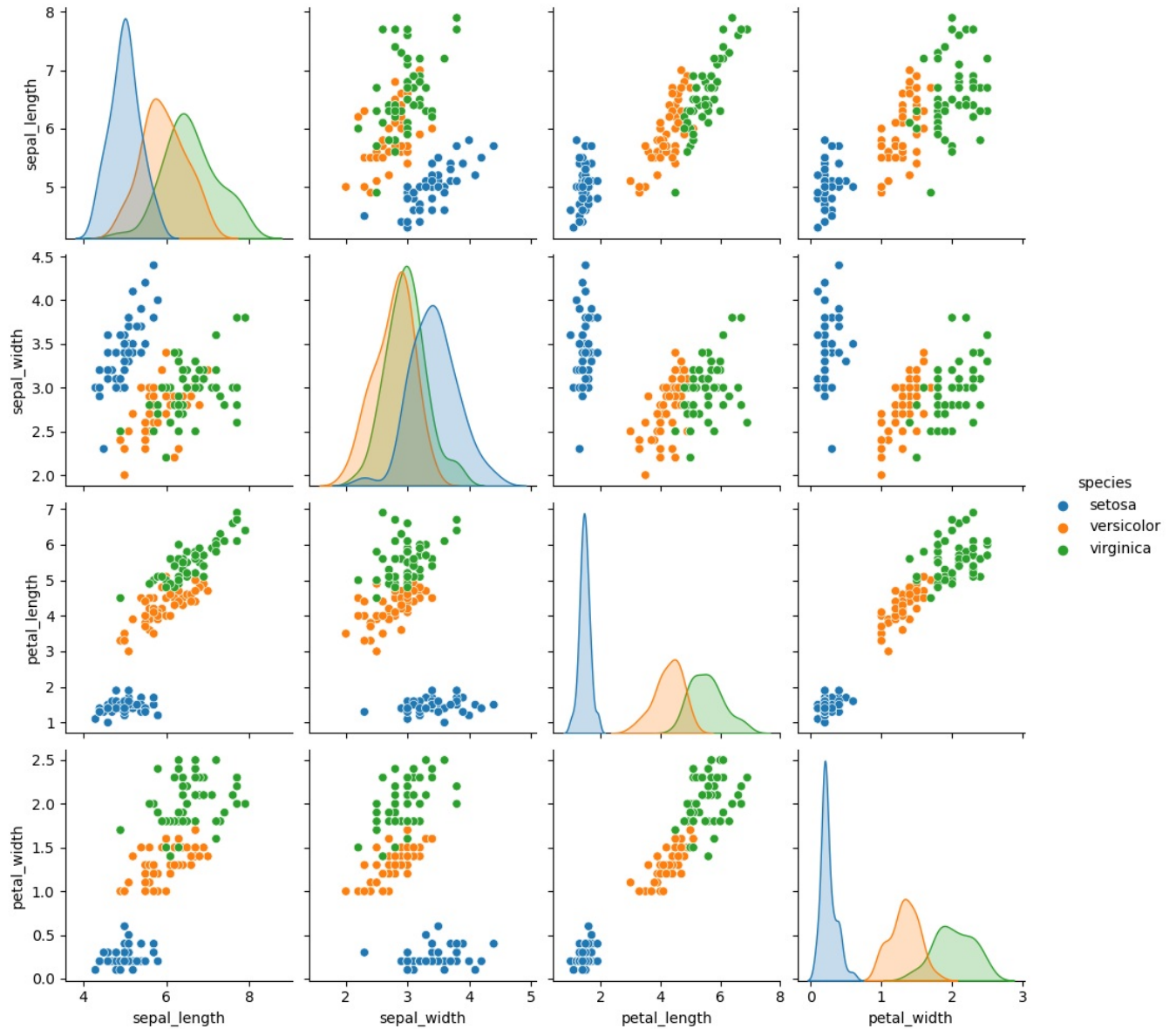
```
In [7]: plt.figure(figsize=(10,6))
sns.scatterplot(x='sepal_length',y='sepal_width',hue='species',data=iris)
plt.title('sepal length vs sepal width')
plt.xlabel('sepal length(cm)')
plt.ylabel('sepal width(cm)')
plt.show()
```



PROBLEM 4: CREATING A PLOT USING SEABORN AND MATPLOTLIB LIBRARIES OF IRIS DATASET WHICH SHOWS HOW THE LENGTH AND WIDTH OF SEPAL LENTH, SEPAL WIDTH ,PETAL LENGTH AND PETAL WIDTH ARE DISTRIBUTED.

```
In [2]: import seaborn as sns
import matplotlib.pyplot as plt
iris = sns.load_dataset('iris')
sns.pairplot(iris,hue='species',height=2.5)
plt.show()
```

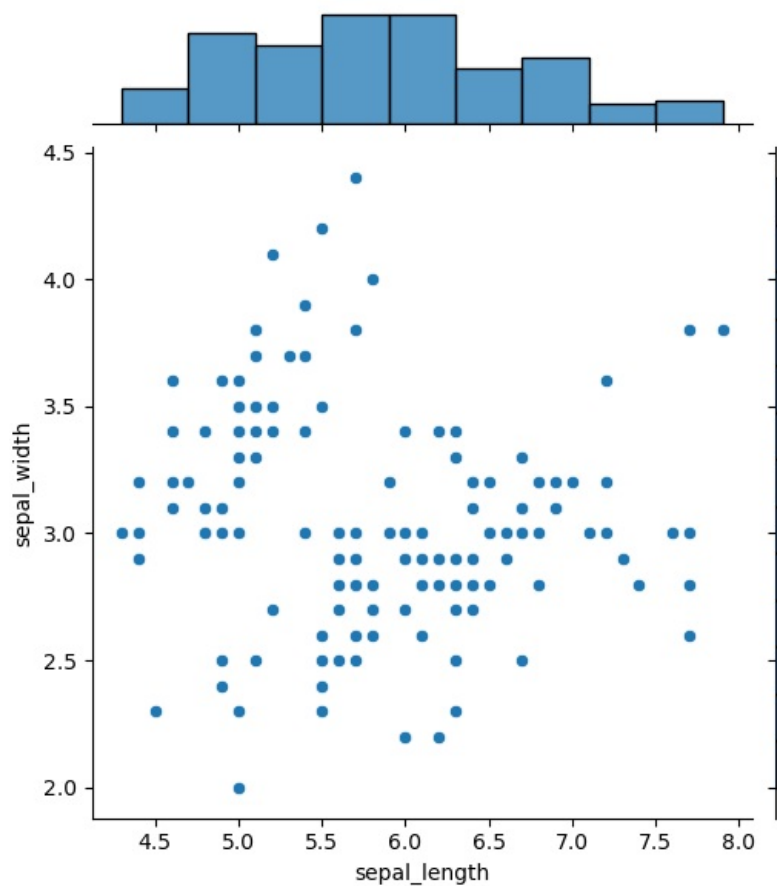
C:\Users\anits-csm\anaconda3\Lib\site-packages\seaborn\axisgrid.py:118: UserWarning: The figure layout has changed to tight
self.figure.tight_layout(*args, **kwargs)



IN THE ABOVE PLOT WE CAN SEE TOTAL THREE DIFFRENT SPECIES OF FLOWERS WHICH WERE COMPARED TO EACH OTHER WITH RESPECTIVE LENGTH AND WIDTH OF PETAL AND SEPAL EACH PLOT IN THESE 16PLOTS THERE ARE DIFFERENT TYPES OF DATA REPRESENTATION SO EACH X-AXIS AND Y-AXIS HAS ITS OWN LABEL AND DIFFERENCES COMPARED TO EACH OTHER

PROBLEM 5: VISUALIZING THE JOINTPLOT OF SEPAL LENGHT TO SEPAL WIDTH. HERE WE WERE REPRESENTING X-AXIS AS SEPAL LENGHT AND Y-AXIS AS SEPAL WIDTH AND VISUALIZING THE PLOT AS SCATTERED PLOT

```
In [4]: sns.jointplot(x='sepal_length',y='sepal_width',data=iris,kind='scatter')
plt.show()
```



THIS PLOTS CONVEYS THE DATA IN TWO DIFFRENT WAYS THERE ARE GRAPHS AND SCATTERD PLOT THE GRAPH REPRESENTS THE DATA OF NUMBER OF QUANTY OF DOTS IN SCATERD PLOT IN ITS REGION

PROBLEM 6: CREATING A VISUALIZATION USING SEABORN TO CREAT A KERNEL DENSITY ESTIMATE PLOT OF SEPAL LENGTH WITH SEPAL WIDTH FOR A PARTICULAR SPECIES (SETOSA)

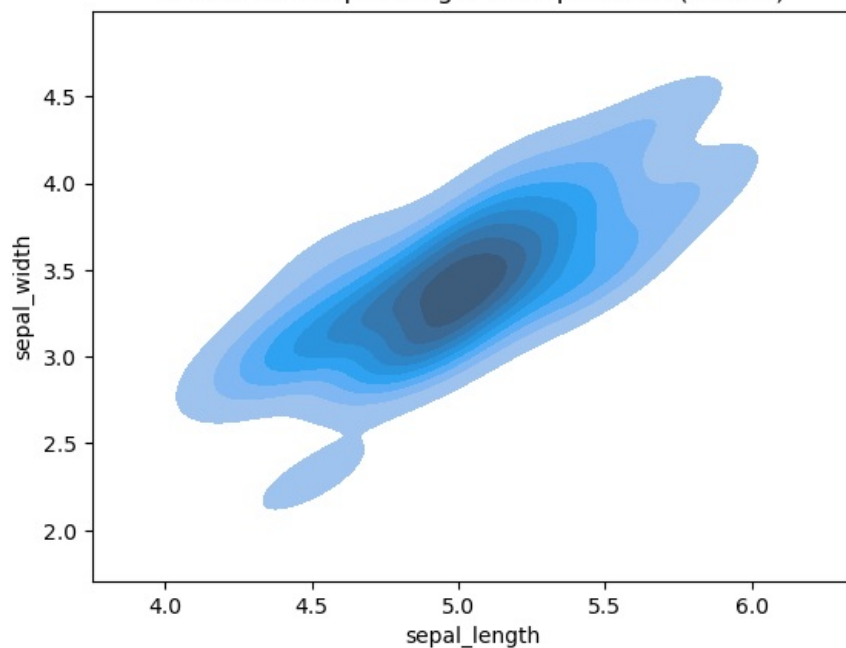
```
In [5]: setosa = iris[iris['species']=='setosa']
sns.kdeplot(x='sepal_length',y='sepal_width',data=setosa,shade=True)
plt.title('KDE Plot of Sepal Lenght vs Sepal Width(Setosa)')
plt.show()
```

C:\Users\anits-csm\AppData\Local\Temp\ipykernel_20324\4212413935.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)
```

KDE Plot of Sepal Lenght vs Sepal Width(Setosa)



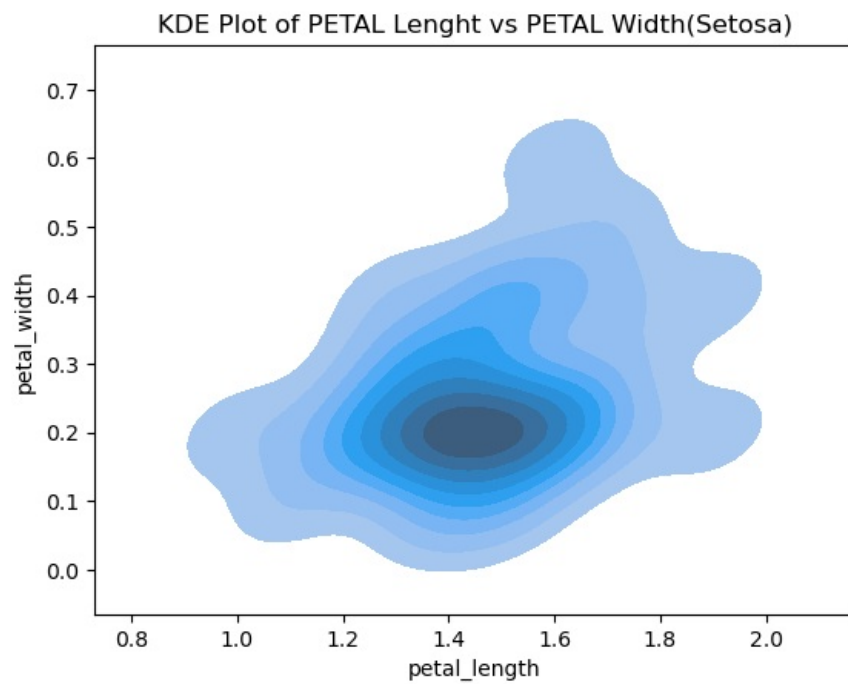
PROBLEM 7: CREATING A KDE_PLOT USING SEABORN OF PETAL LENGHT WITH PETAL WIDTH FOR A SPECIFIC SPECIES(SETOSA) X-AXIS AS PETAL_LENGHT AND Y-AXIS AS PETAL_WIDTH OF DATA SETOSA AND WRITING DOWN A

```
In [6]: sns.kdeplot(x='petal_length',y='petal_width',data=setosa,shade=True)  
plt.title('KDE Plot of PETAL Lenght vs PETAL Width(Setosa)')  
plt.show()
```

C:\Users\anits-csm\AppData\Local\Temp\ipykernel_20324\1942465215.py: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)
```



In []:

Loading [MathJax]/jax/output/CommonHTML/fonts/TeX/fontdata.js