In

In [1]:
```python
import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
import seaborn as sns
import plotly.express as px
from sklearn.datasets import load_iris
import warnings
warnings.filterwarnings("ignore")
```

In [2]:
```python
data = load_iris()
```

Out[3]:
```
{'data': array([[5.1, 3.5, 1.4, 0.2],
       [4.9, 3. , 1.4, 0.2],
       [4.7, 3.2, 1.3, 0.2],
       [4.6, 3.1, 1.5, 0.2],
       [5. , 3.6, 1.4, 0.2],
       [5.4, 3.9, 1.7, 0.4],
       [4.6, 3.4, 1.4, 0.3],
       [5. , 3.4, 1.5, 0.2],
       [4.4, 2.9, 1.4, 0.2],
       [4.9, 3.1, 1.5, 0.1],
       [5.4, 3.7, 1.5, 0.2],
       [4.8, 3.4, 1.6, 0.2],
       [4.8, 3. , 1.4, 0.1],
       [4.3, 3. , 1.1, 0.1],
       [5.8, 4. , 1.2, 0.2],
       [5.7, 4.4, 1.5, 0.4],
       [5.4, 3.9, 1.3, 0.4],
       [5.1, 3.5, 1.4, 0.3],
       [5.7, 3.8, 1.7, 0.3],
       [5 1  3 8  1 5  0 3]
```

In [4]:
```python
df = pd.DataFrame()
df[data['feature_names']] = data['data']
df['label'] = data['target']
```

In [5]:
```python
df.head()
```

Out[5]:

[3]: data

	sepal length (cm)	sepal width (cm)	petal length (cm)	petal width (cm)	label
0	5.1	3.5	1.4	0.2	0
1	4.9	3.0	1.4	0.2	0
2	4.7	3.2	1.3	0.2	0
3	4.6	3.1	1.5	0.2	0
4	5.0	3.6	1.4	0.2	0

In [6]:
```python
df.shape
```

In [7]: `df.info()`

Out[6]:
```
(150, 5)
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 150 entries, 0 to 149
Data columns (total 5 columns):
 #   Column             Non-Null Count  Dtype
---  ------             --------------  -----
 0   sepal length (cm)  150 non-null    float64
 1   sepal width (cm)   150 non-null    float64
 2   petal length (cm)  150 non-null    float64
 3   petal width (cm)   150 non-null    float64
 4   label              150 non-null    int32  dtypes:
 float64(4), int32(1)
memory usage: 5.4 KB
```

In [8]: `df.describe()`

Out[8]:

	sepal length (cm)	sepal width (cm)	petal length (cm)	petal width (cm)	label
count	150.000000	150.000000	150.000000	150.000000	150.000000
mean	5.843333	3.057333	3.758000	1.199333	1.000000
std	0.828066	0.435866	1.765298	0.762238	0.819232
min	4.300000	2.000000	1.000000	0.100000	0.000000
25%	5.100000	2.800000	1.600000	0.300000	0.000000
50%	5.800000	3.000000	4.350000	1.300000	1.000000
75%	6.400000	3.300000	5.100000	1.800000	2.000000
max	7.900000	4.400000	6.900000	2.500000	2.000000

In [9]:
```python
sns.heatmap(df.corr(), annot=True)
plt.show()
```
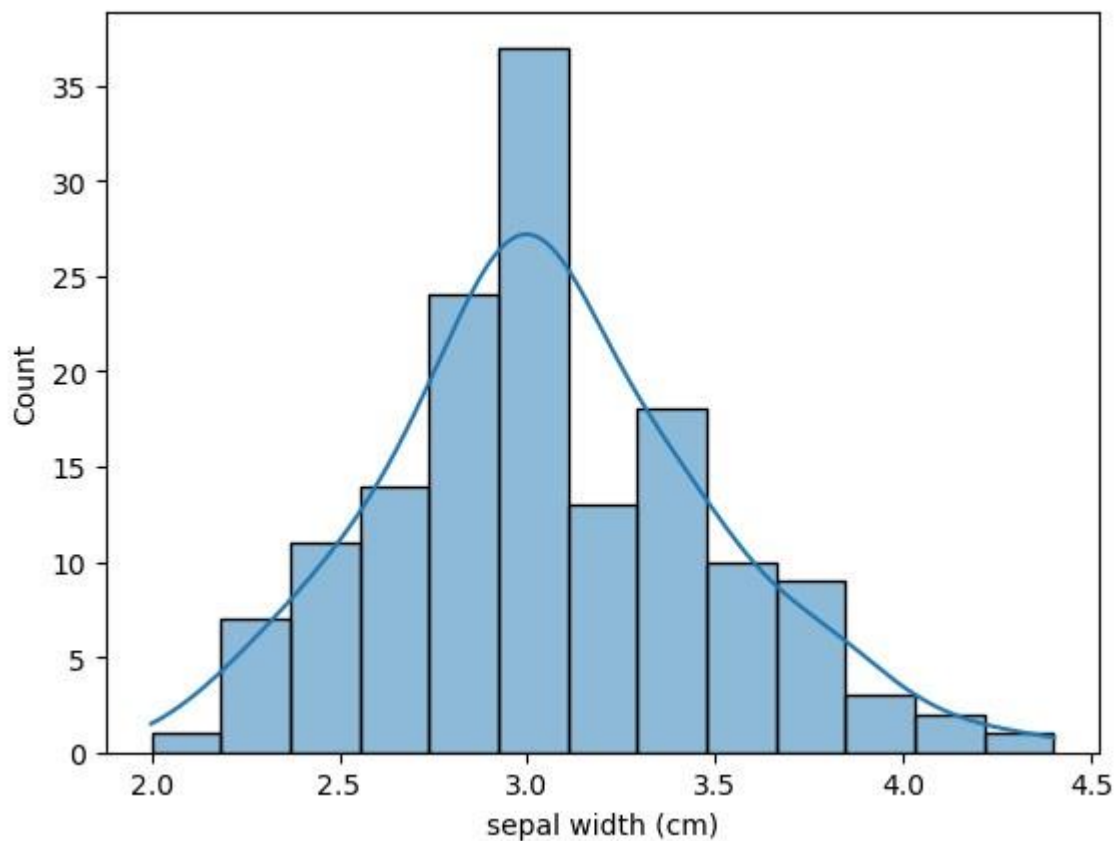
In
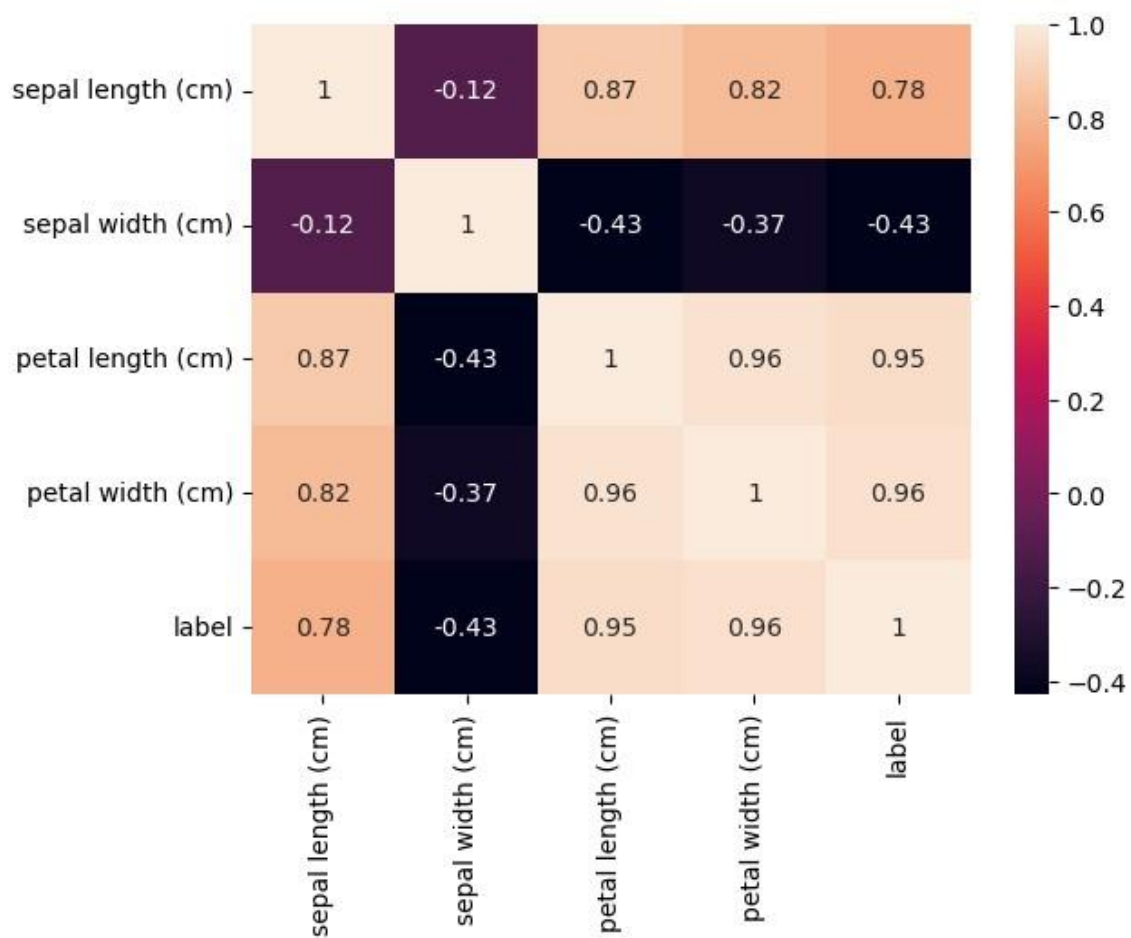
[10]:
```python
sns.histplot(df["sepal length (cm)"], kde=True)
plt.show()
```
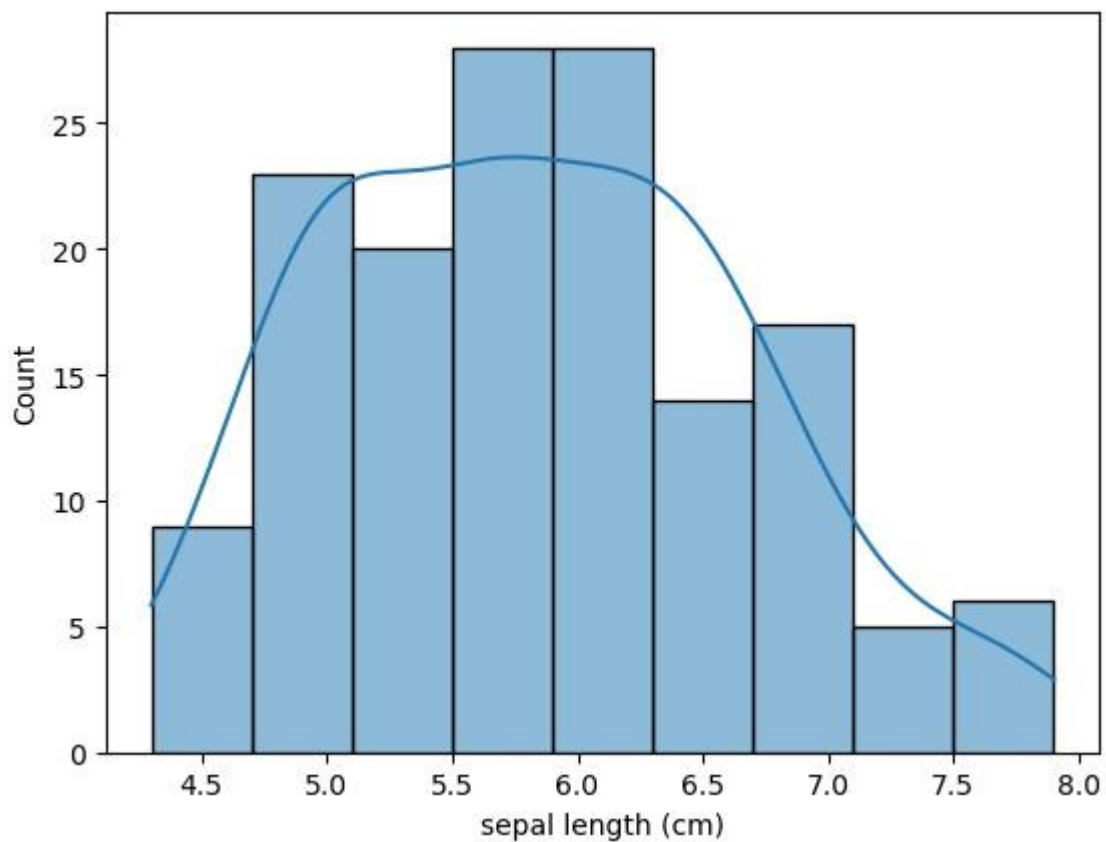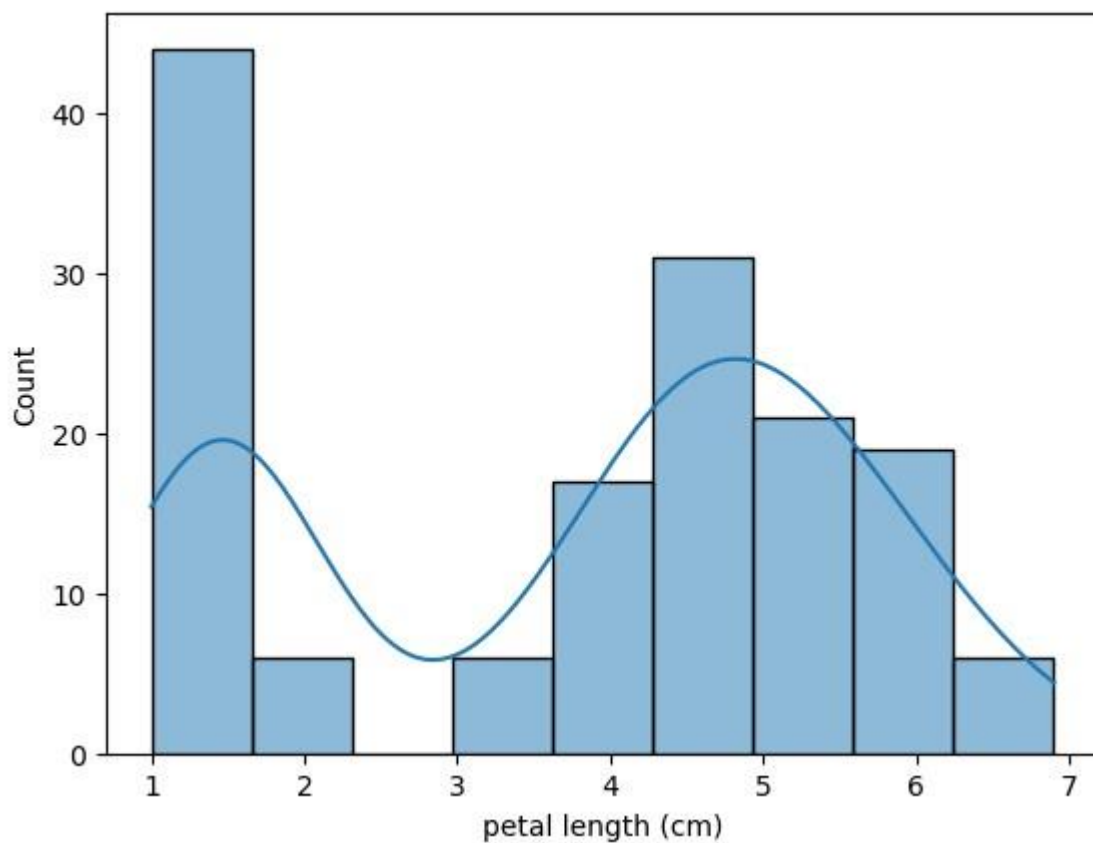

In [11]:
```python
sns.histplot(df["sepal width (cm)"], kde=True)
plt.show()
```
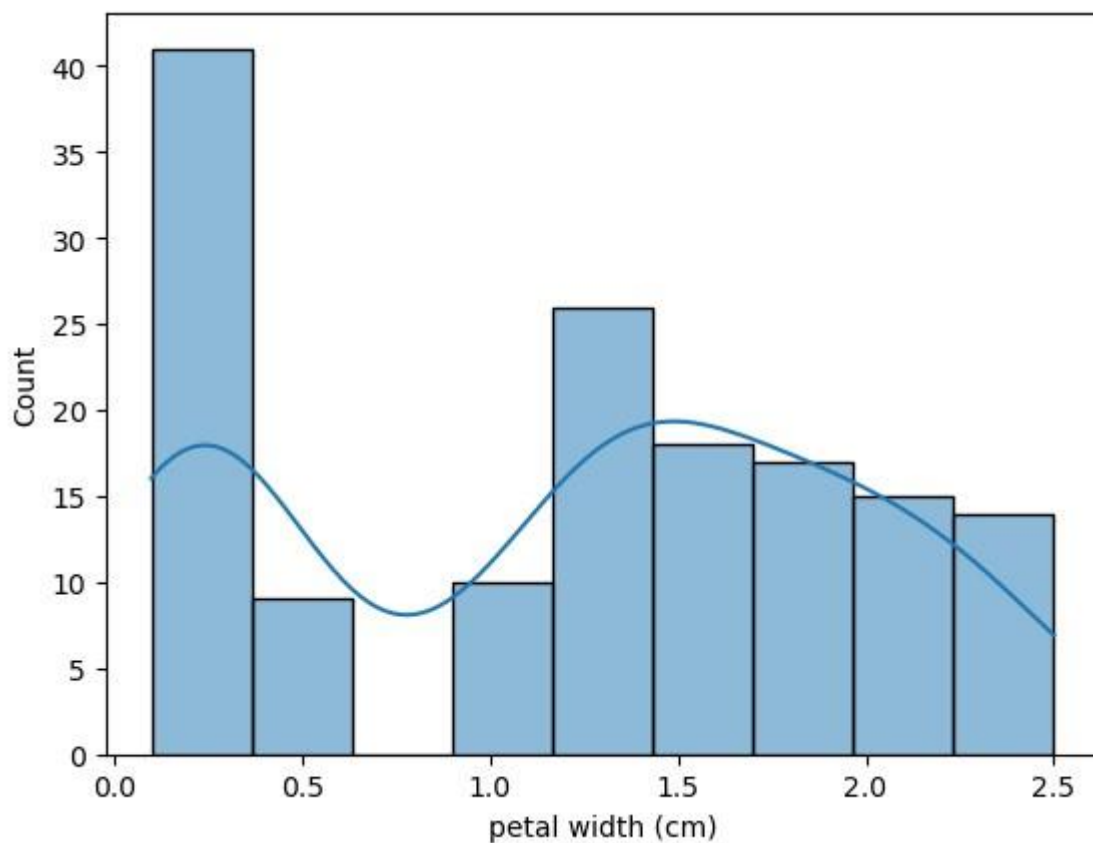
In

[12]:
```python
sns.histplot(df["petal length (cm)"], kde=True)
plt.show()
```
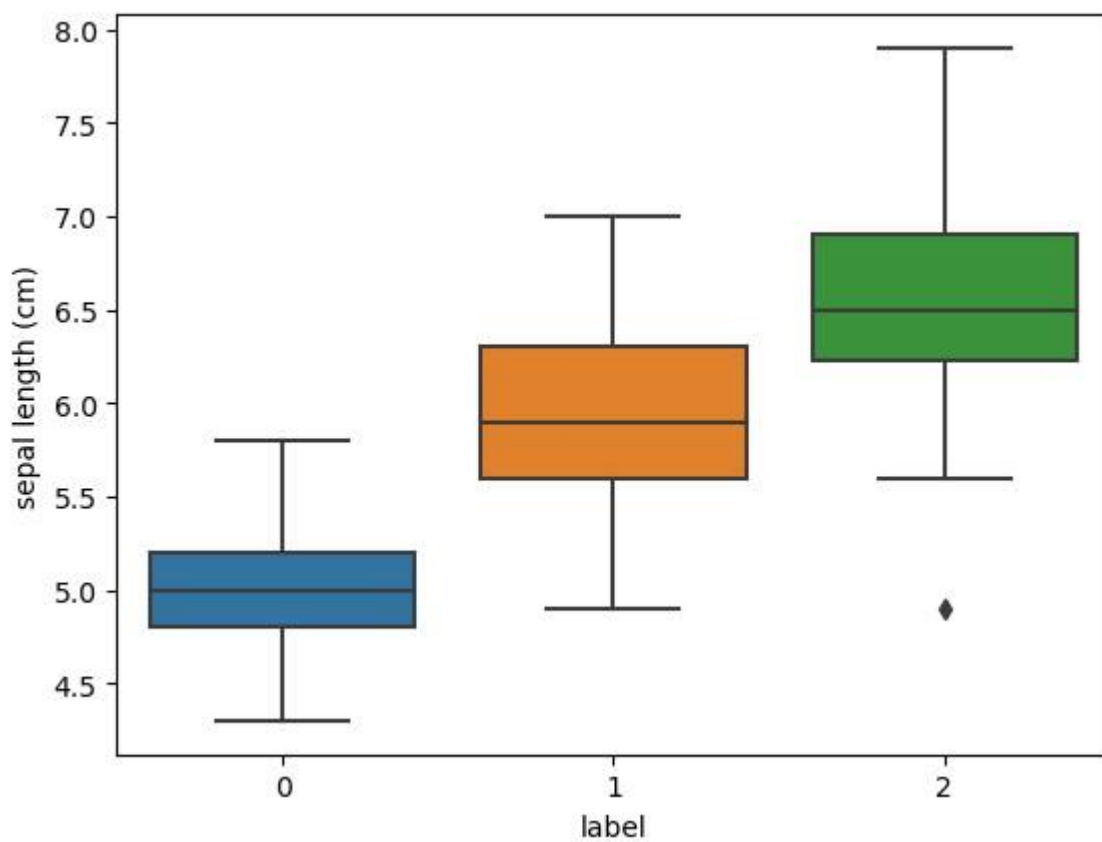

In [13]:
```python
sns.histplot(df["petal width (cm)"], kde=True)
plt.show()
```
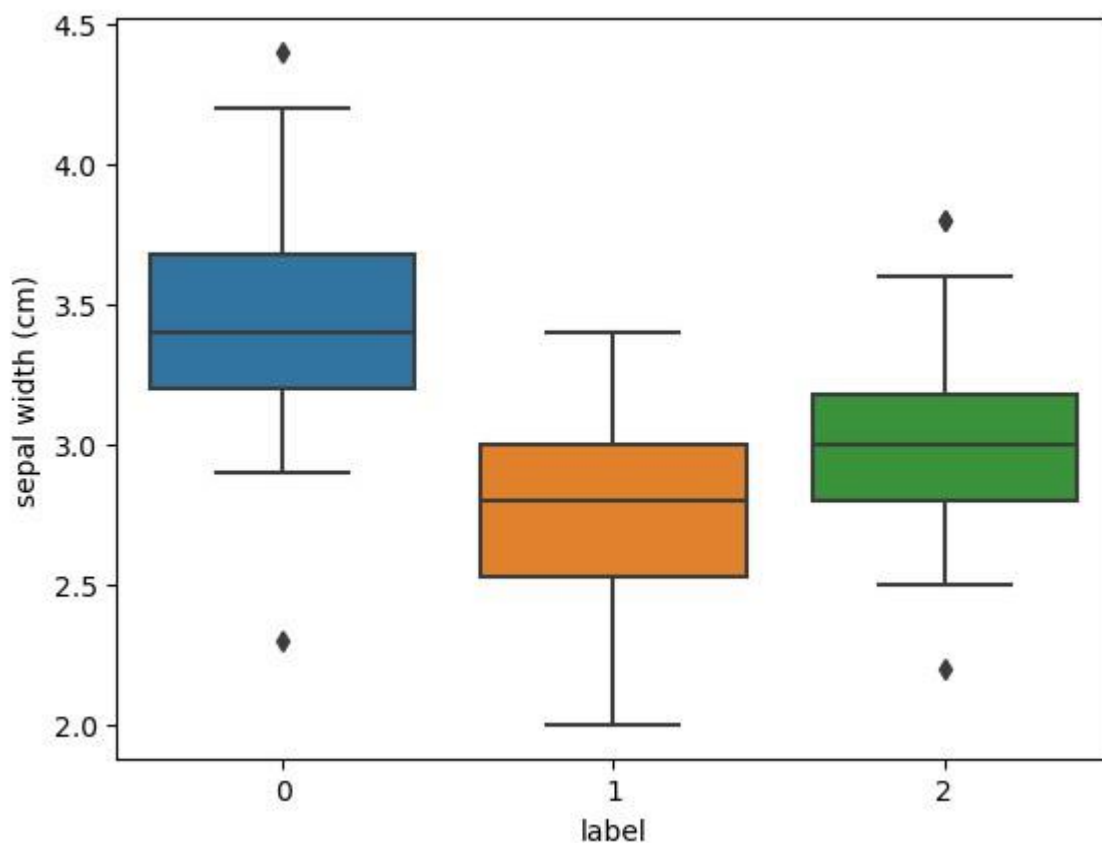
In
[14]:
```python
sns.boxplot(x=df['label'], y=df["sepal length (cm)"])
plt.show()
```
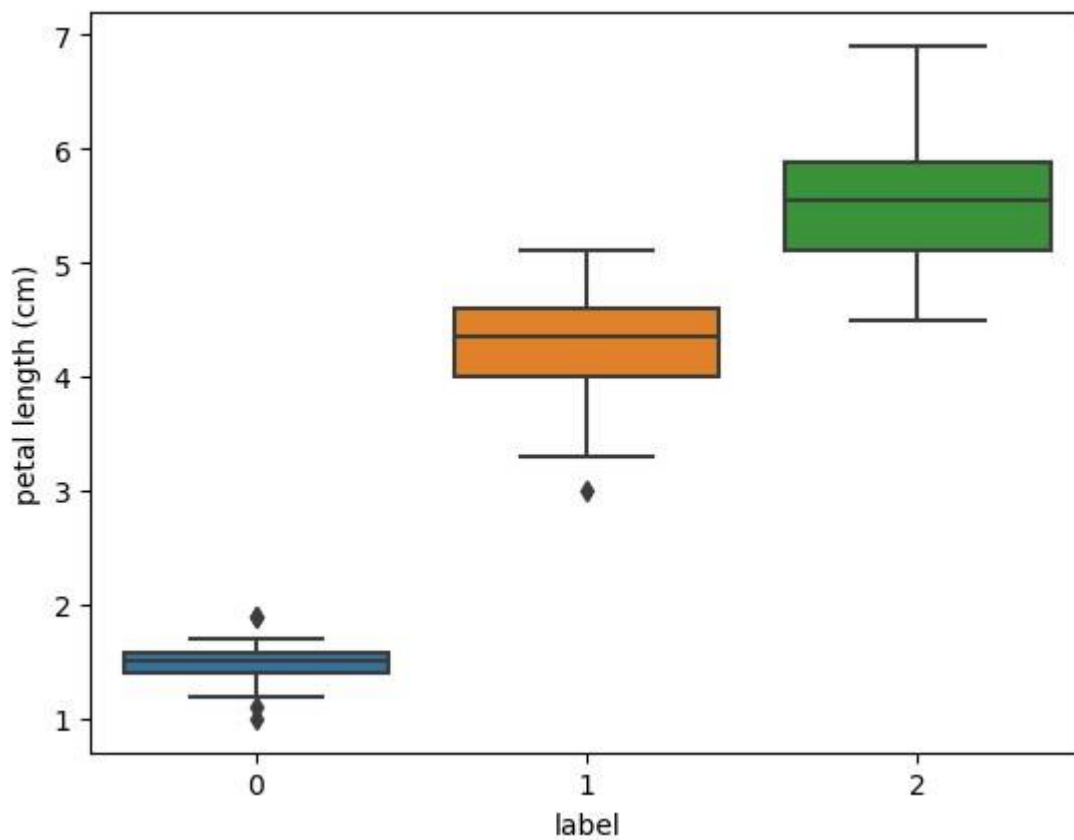

In [15]:
```python
sns.boxplot(x=df['label'] ,y=df["sepal width (cm)"])
plt.show()
```
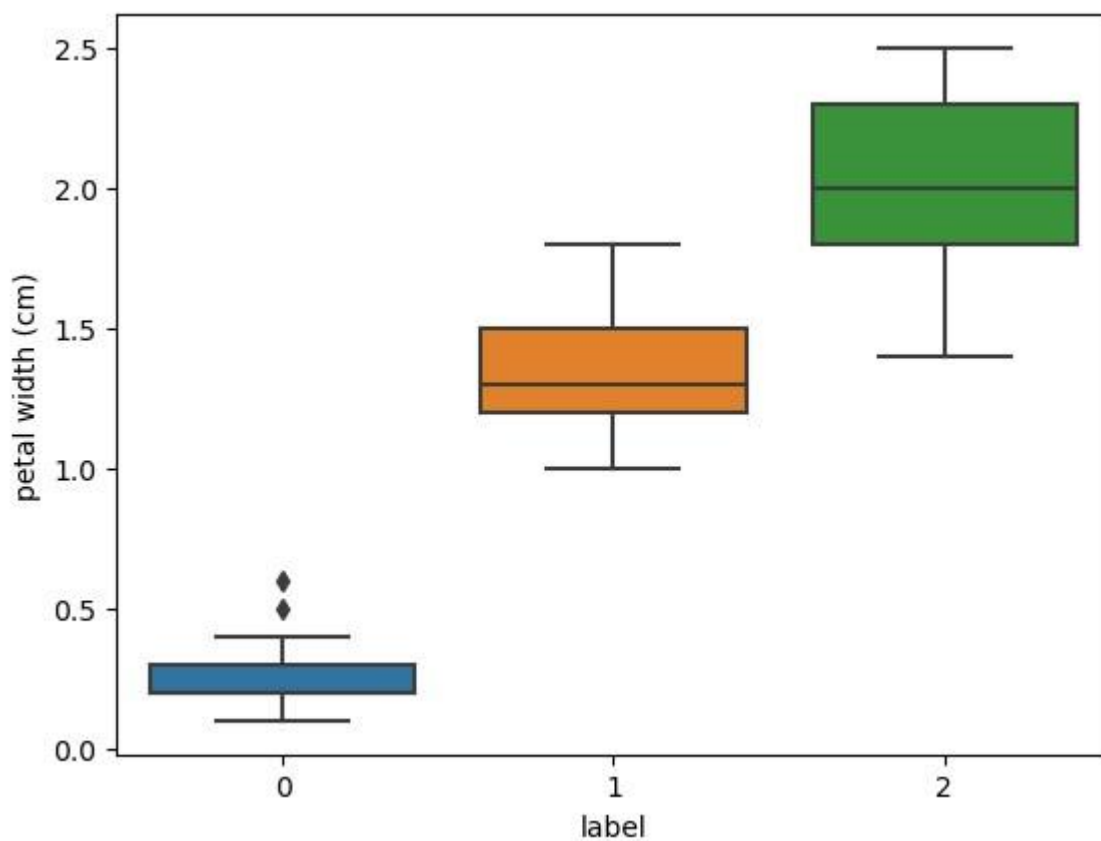
In

[16]:
```python
sns.boxplot(x=df["label"] ,y=df["petal length (cm)"])
plt.show()
```


In [17]:
```python
sns.boxplot(x=df['label'] ,y=df["petal width (cm)"])
plt.show()
```

```
In [ ]:  # Dixit Tanmay TE13143
```