Assignment 10

In [1]:
```
import numpy as np
import pandas as pd
import matplotlib.pyplot as plt
import seaborn as sns
```

In [2]:
```
data = pd.read_csv('https://gist.githubusercontent.com/curran/a08a1080b88344
data
```

Out[2]:

	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

In [3]:
```
data.head()
```

Out[3]:

	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

In [4]:
```
1 data.describe()
```

Out[4]:

	sepal_length	sepal_width	petal_length	petal_width
count	150.000000	150.000000	150.000000	150.000000
mean	5.843333	3.054000	3.758667	1.198667
std	0.828066	0.433594	1.764420	0.763161
min	4.300000	2.000000	1.000000	0.100000
25%	5.100000	2.800000	1.600000	0.300000
50%	5.800000	3.000000	4.350000	1.300000
75%	6.400000	3.300000	5.100000	1.800000
max	7.900000	4.400000	6.900000	2.500000

In [5]:
```
1 data.describe(include = 'object')
```

Out[5]:

	species
count	150
unique	3
top	setosa
freq	50

In [6]:
```
1 data.isnull().sum()
```

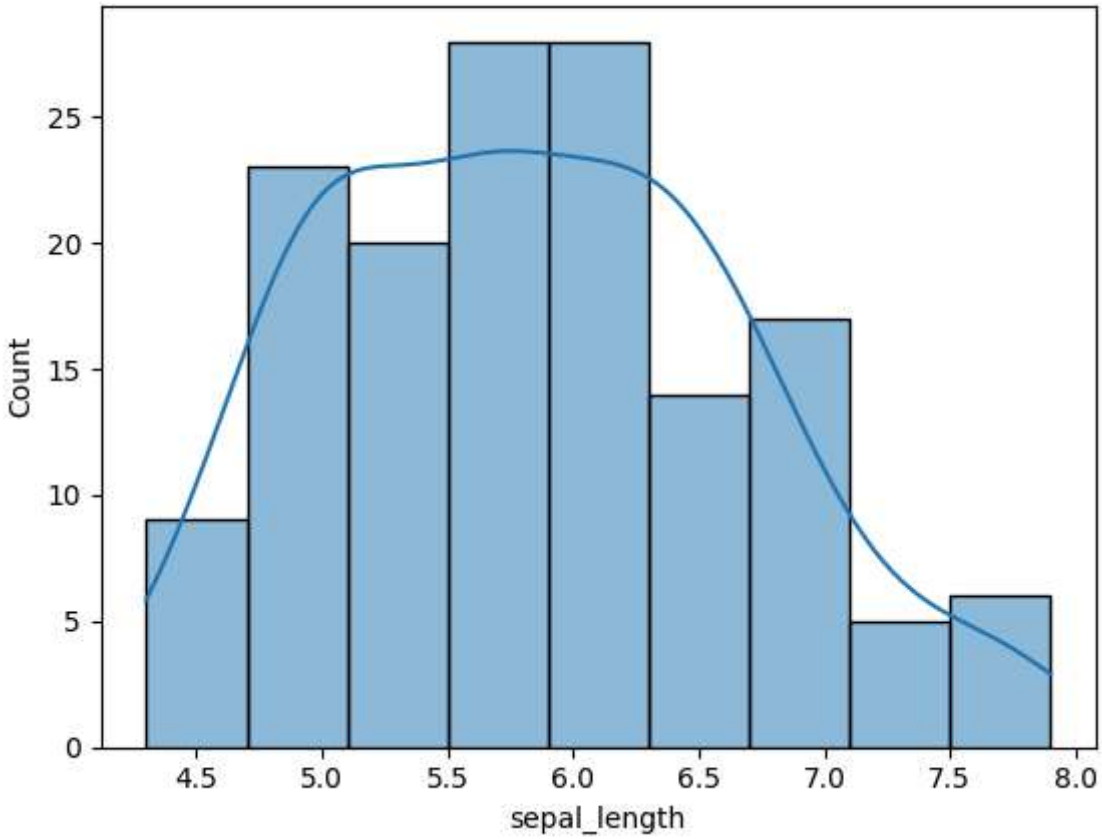
Out[6]:
```
sepal_length    0
sepal_width     0
petal_length    0
petal_width     0
species         0
dtype: int64
```

In [7]:
```
1 print("\n\nThe features in the dataset are as follows : ")
2 print("1. Sepal length : ", data['sepal_length'].dtype)
3 print("2. Sepal width : ", data['sepal_width'].dtype)
4 print("3. Petal length : ", data['petal_length'].dtype)
5 print("4. Petal width : ", data['petal_width'].dtype)
6 print("5. Species : ", data['species'].dtype)
```

```
The features in the dataset are as follows :
1. Sepal length :  float64
2. Sepal width :  float64
3. Petal length :  float64
4. Petal width :  float64
5. Species :  object
```

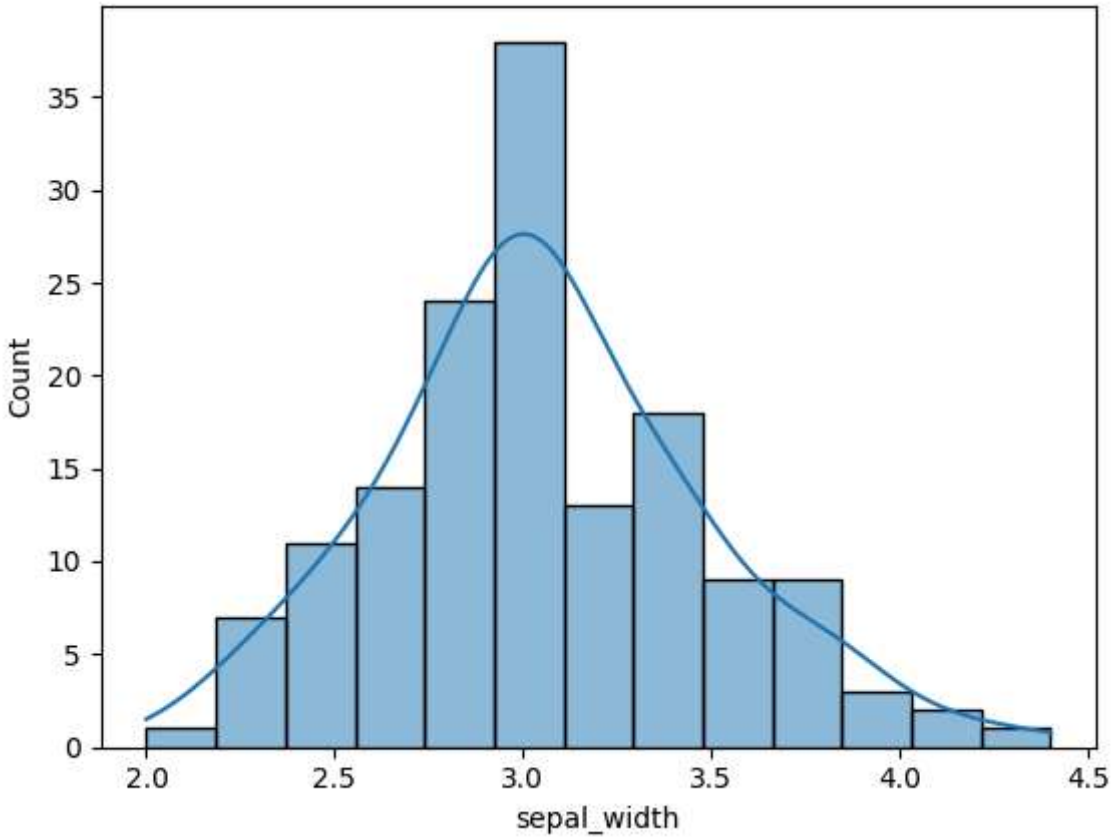
In [8]:
```
1 sns.histplot(x = data['sepal_length'], kde=True)
```

Out[8]:
```
<Axes: xlabel='sepal_length', ylabel='Count'>
```



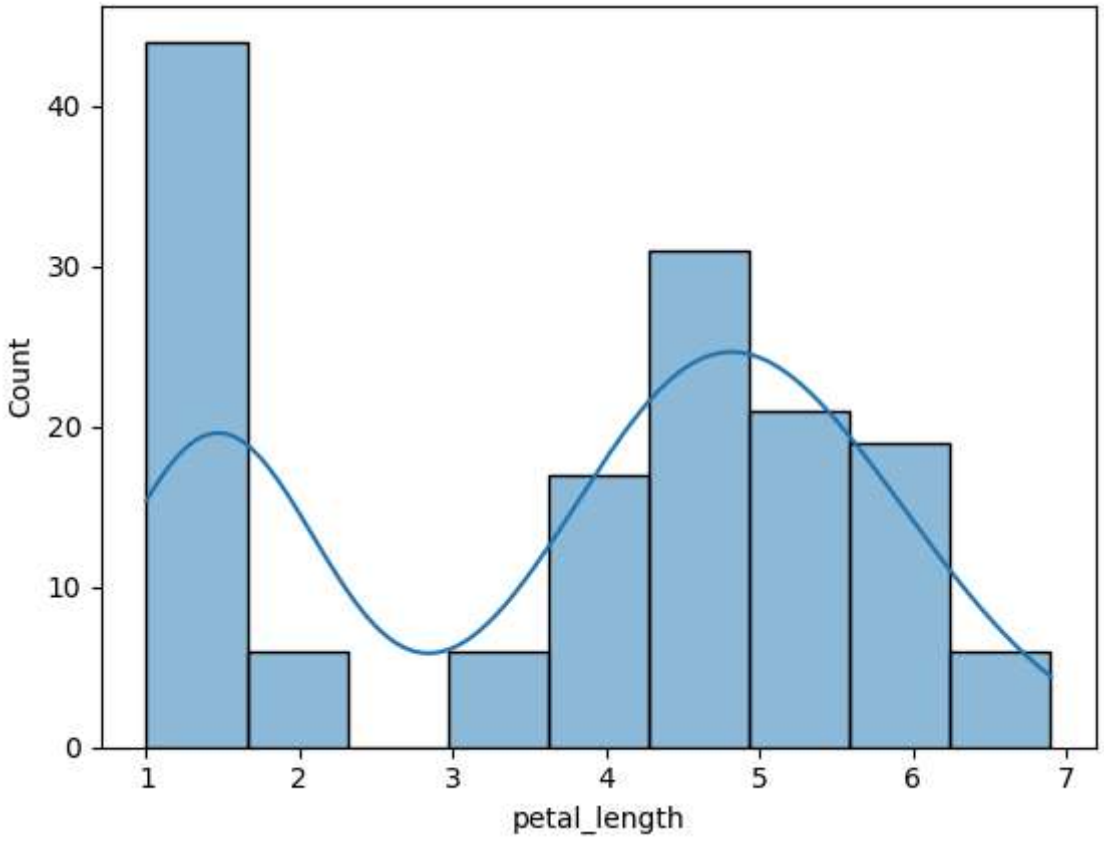
In [9]:
```
1 sns.histplot(x = data['sepal_width'], kde=True)
```

Out[9]: <Axes: xlabel='sepal_width', ylabel='Count'>



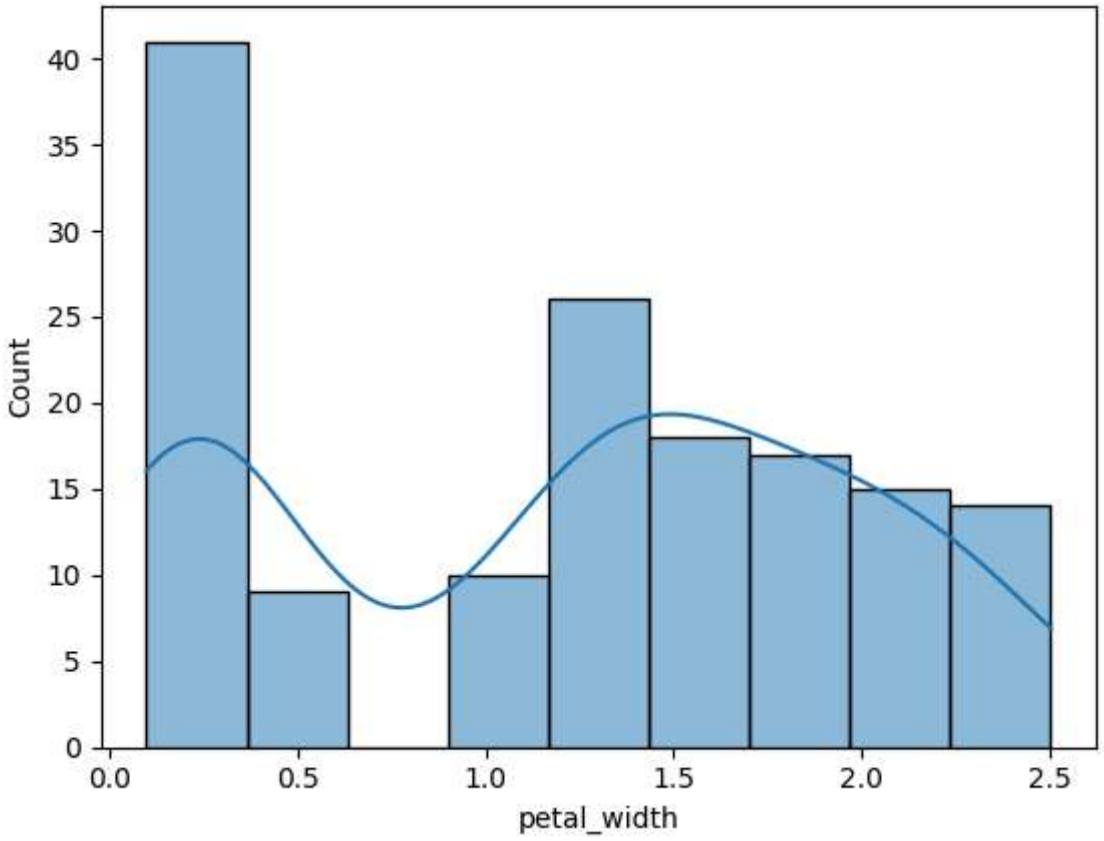
In [10]:
```
1 sns.histplot(x = data['petal_length'], kde=True)
```

Out[10]:
```
<Axes: xlabel='petal_length', ylabel='Count'>
```



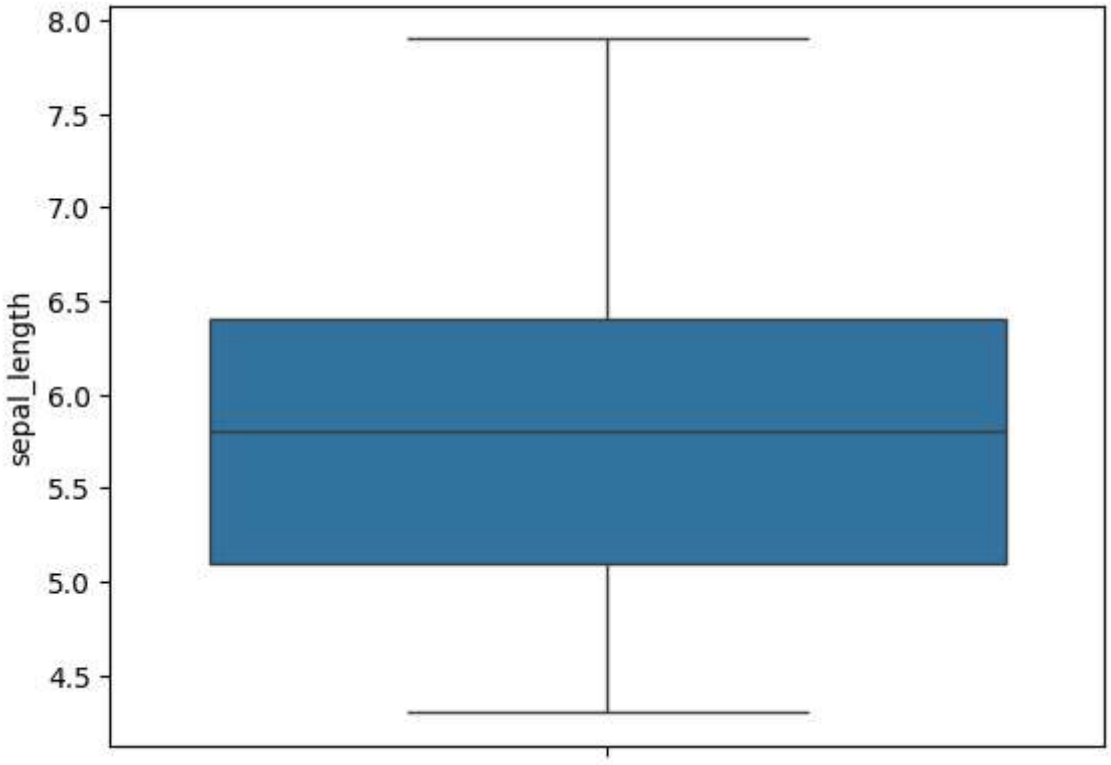
In [11]:
```
1 sns.histplot(x = data['petal_width'], kde=True)
```

Out[11]: <Axes: xlabel='petal_width', ylabel='Count'>



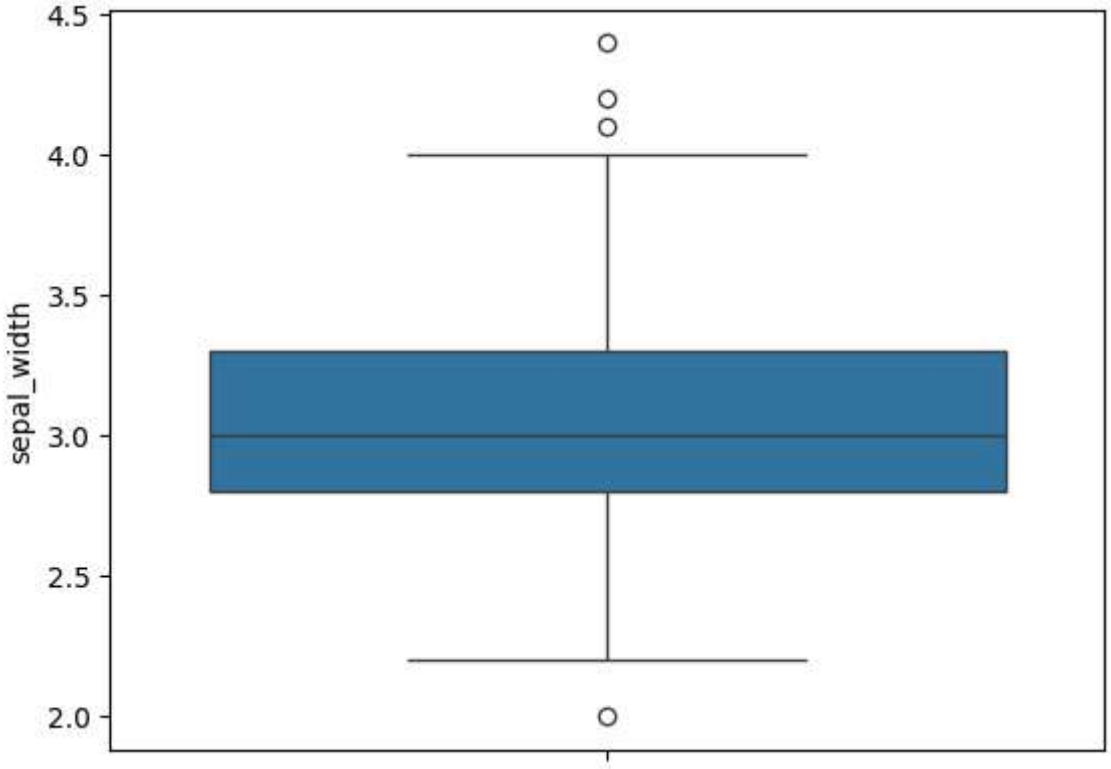
In [12]:
```
1 sns.boxplot(data['sepal_length'])
```

Out[12]: <Axes: ylabel='sepal_length'>



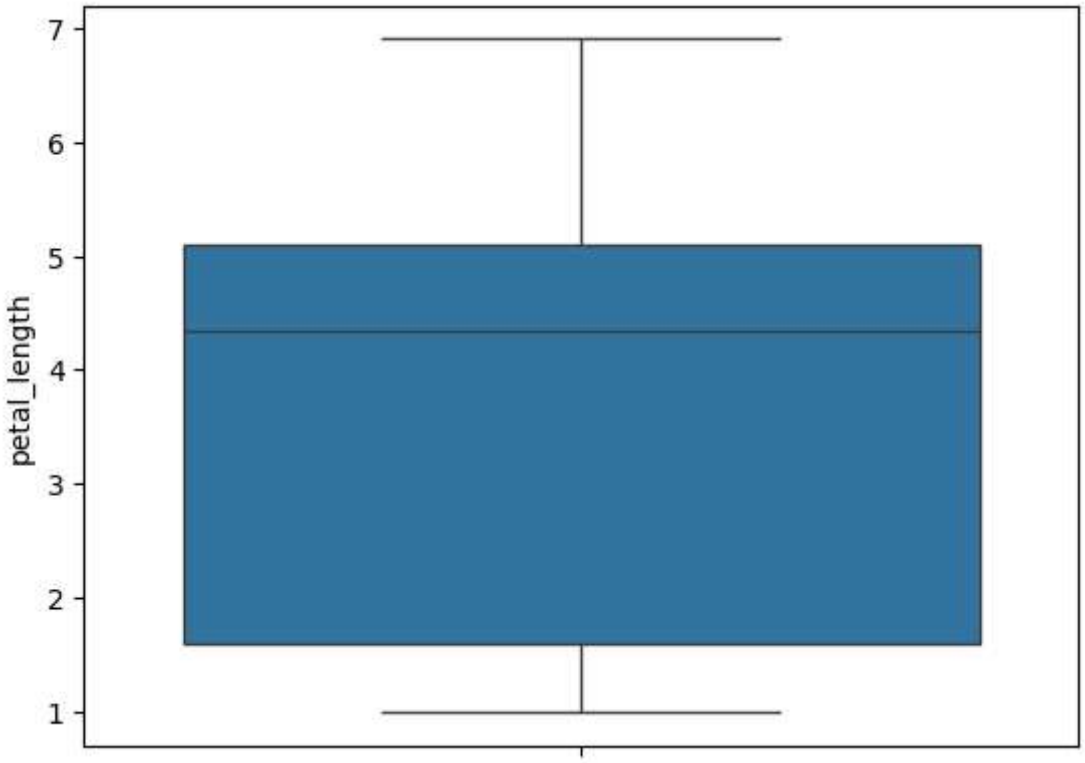
In [13]:
```
1 sns.boxplot(data['sepal_width'])
```

Out[13]: <Axes: ylabel='sepal_width'>



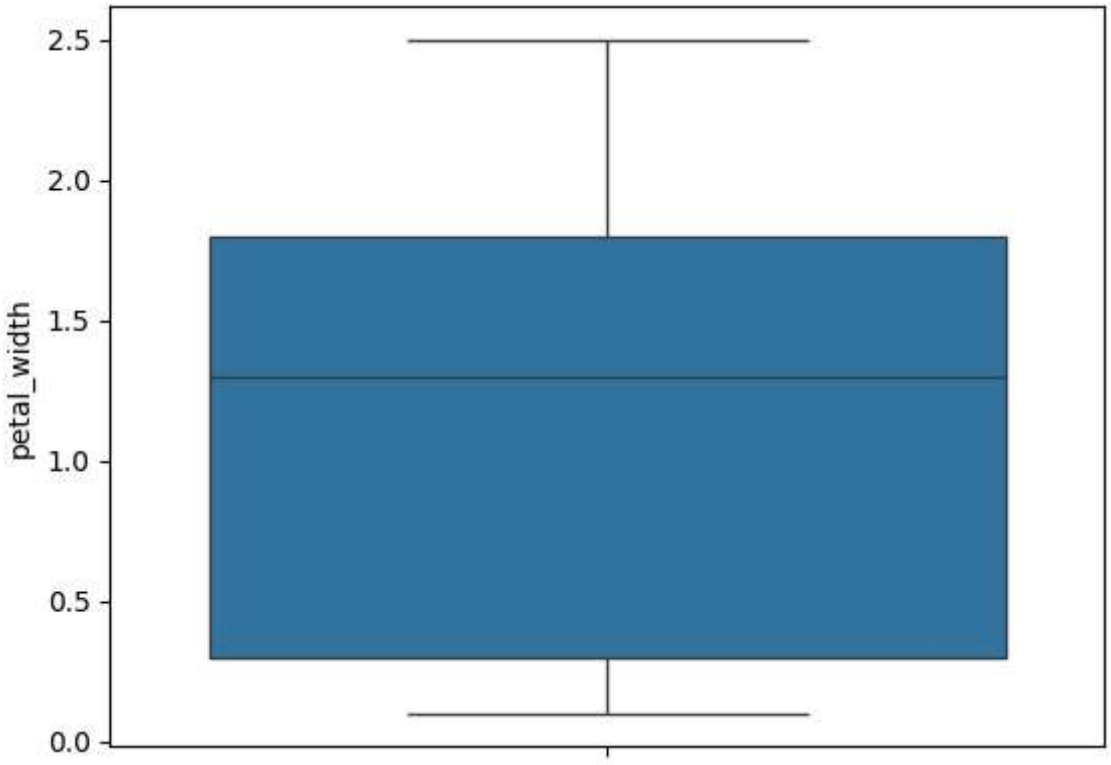
In [14]:
```
1 sns.boxplot(data['petal_length'])
```

Out[14]: <Axes: ylabel='petal_length'>



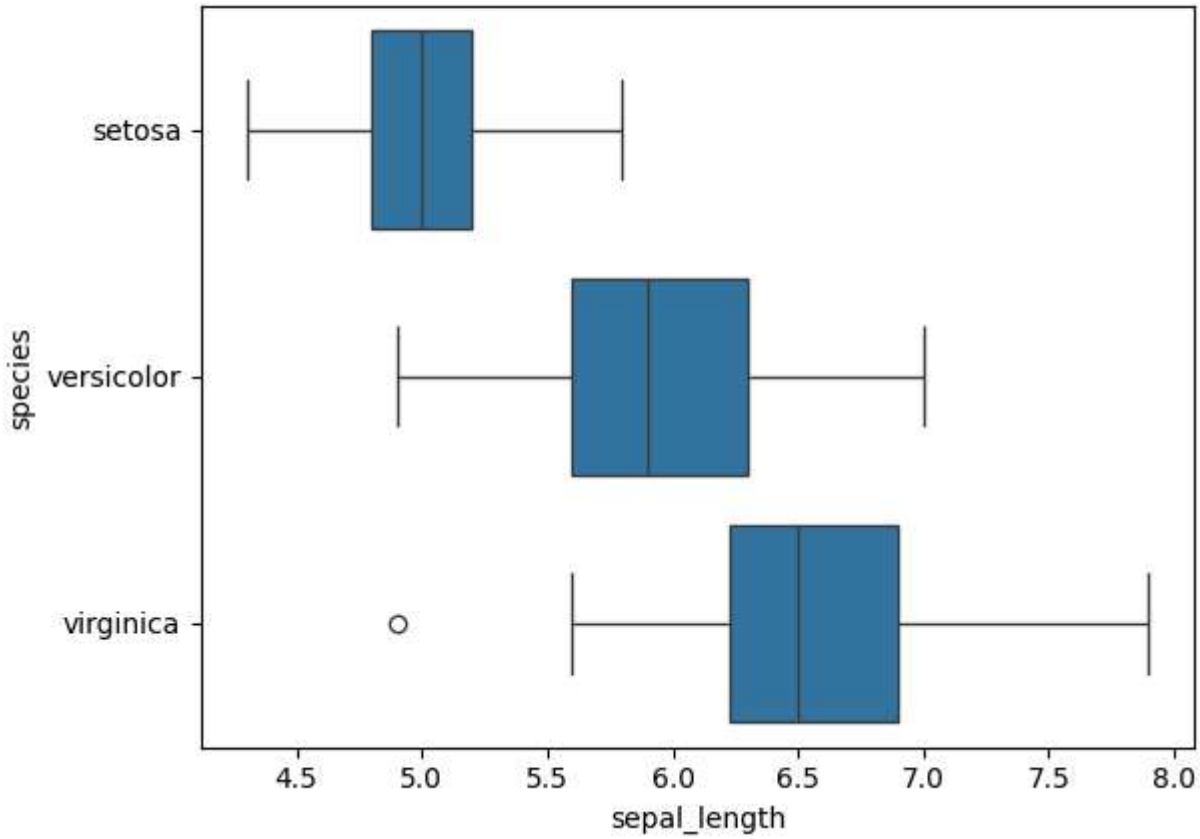
In [15]:
```
1 sns.boxplot(data['petal_width'])
```

Out[15]: <Axes: ylabel='petal_width'>



In [16]:
```
1 sns.boxplot(x='sepal_length',y='species',data=data)
```

Out[16]:
```
<Axes: xlabel='sepal_length', ylabel='species'>
```



In [17]:
```
1 sns.boxplot(x='petal_length',y='species',data=data)
```

Out[17]: <Axes: xlabel='petal_length', ylabel='species'>