```
from sklearn.datasets import load_iris  ##iris dataset imported
import pandas as pd
import matplotlib.pyplot as plt


data = load_iris() ##dataset of iris


# Extract 'data' attr from data object, column names from attr 'feature_names'
df = pd.DataFrame(data=data['data'], columns=data['feature_names'])

# adding a col of target to the dataframe
df['target'] = data['target']

df.head()
```

	sepal length (cm)	sepal width (cm)	petal length (cm)	petal width (cm)	target
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

```
y = df['target']
# axis=1 (or axis='columns') is vertical axis - col
# axis=0 (or axis='row') is horizontal axis - row
x = df.drop(['target'],axis=1)


x.dtypes
```

```
sepal length (cm)    float64
sepal width (cm)     float64
petal length (cm)    float64
petal width (cm)     float64
dtype: object
```

```
y.value_counts()
```

Std Dev- by how much the values of a column differ from the mean value for that c

```
2    50
1    50
0    50
Name: target, dtype: int64
```

Compute and display summary statistics for each feature

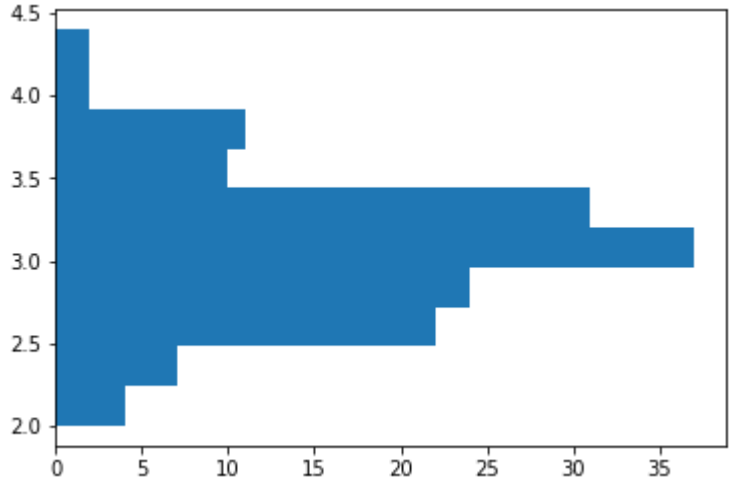
x.describe()

	sepal length (cm)	sepal width (cm)	petal length (cm)	petal width (cm)
count	150.000000	150.000000	150.000000	150.000000
mean	5.843333	3.057333	3.758000	1.199333
std	0.828066	0.435866	1.765298	0.762238
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

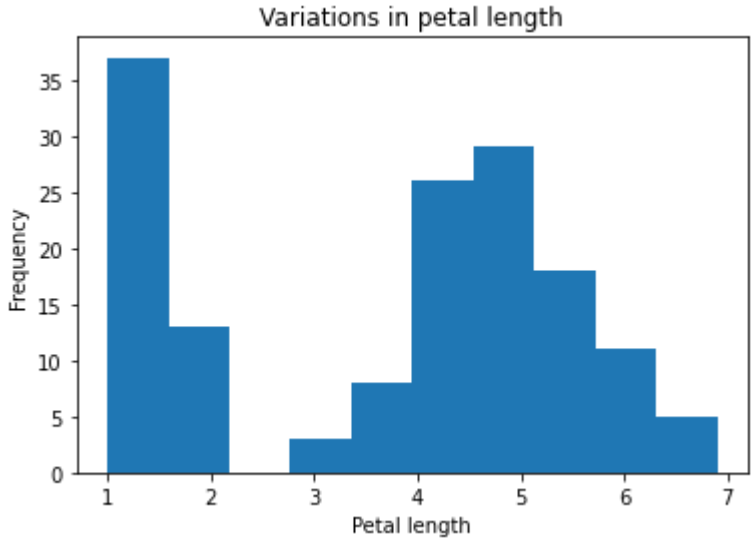
Create a histogram for each feature

```
plt.hist(x['sepal length (cm)'],bins=15)
plt.show()
```

```
plt.hist(x['sepal width (cm)'],orientation='horizontal')
plt.show()
```




```
plt.hist(x['petal length (cm)'])
plt.title('Variations in petal length')
plt.xlabel('Petal length')
plt.ylabel('Frequency')
plt.show()
```

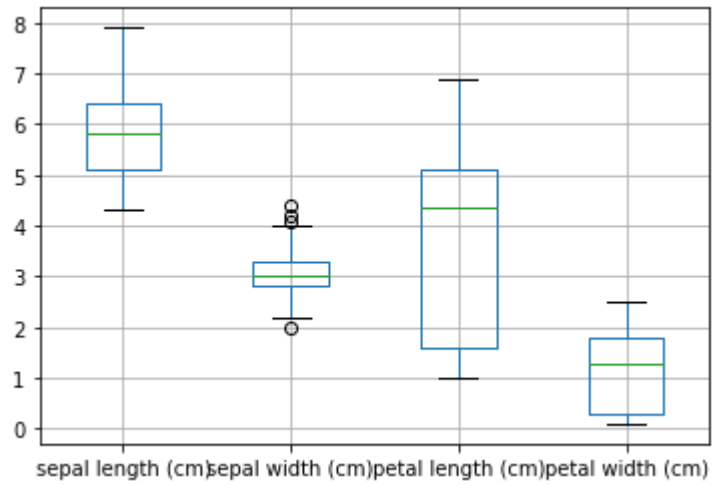



```
plt.hist(x['petal width (cm)'])
plt.show()
```

Create a combined boxplot for each feature in the dataset.

x.boxplot()

<matplotlib.axes._subplots.AxesSubplot at 0x7fcd93e972d0>



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