```
from sklearn.datasets import load_iris
import numpy as np
from sklearn import tree
```

```
import numpy as np
import pandas as pd
import seaborn as sns
import matplotlib.pyplot as plt
```

```
iris = load_iris()
```

```
df = pd.DataFrame(data=iris.data,
                  columns=iris.feature_names)
df["target"] = iris.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

```
df.info()
```

```
<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   target             150 non-null    int64  
dtypes: float64(4), int64(1)
memory usage: 6.0 KB
```

```
df.shape
```

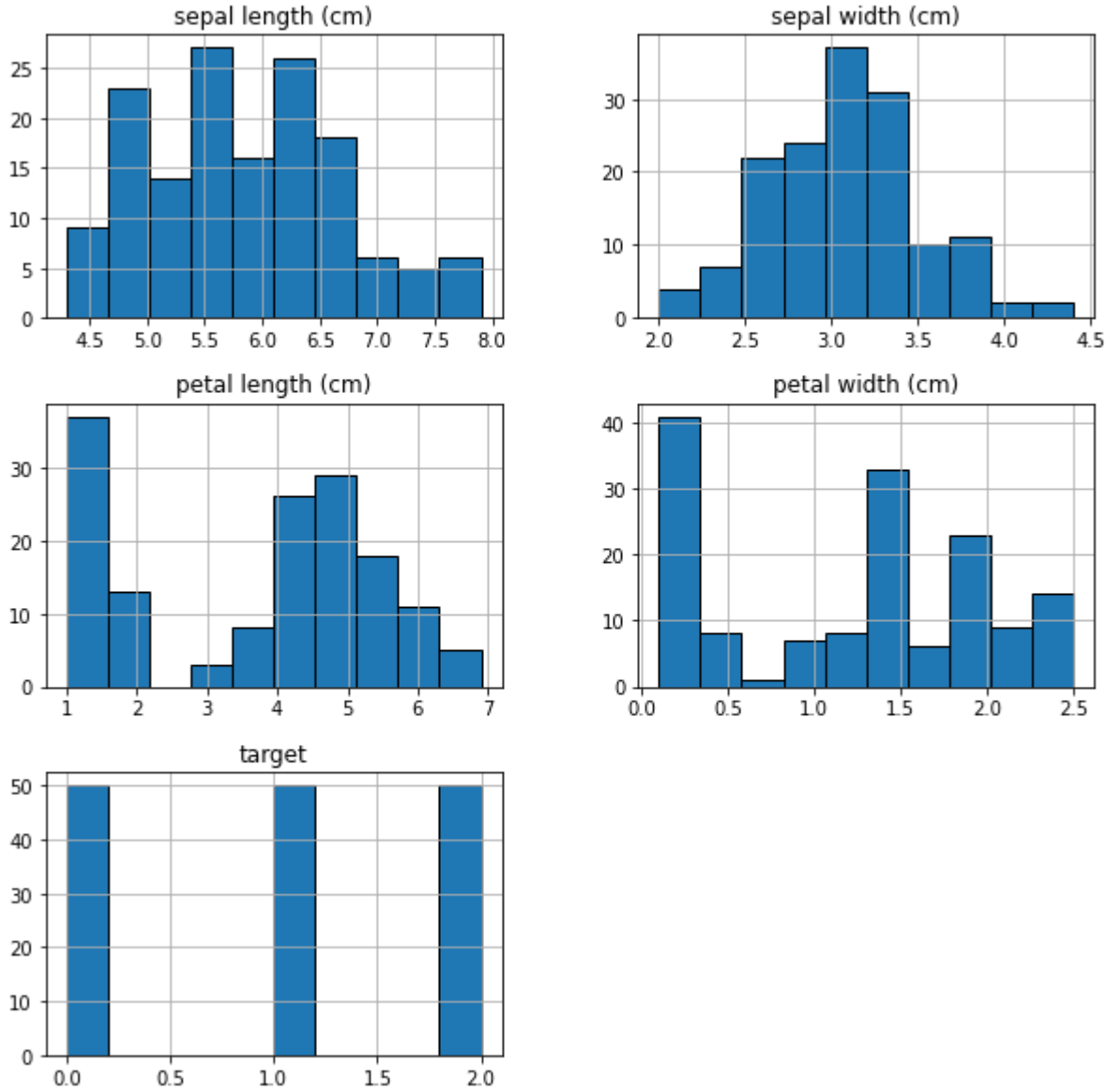
```
(150, 5)
```

```
df.isnull().sum()
```

```
sepal length (cm)    0
sepal width (cm)     0
petal length (cm)    0
petal width (cm)     0
target               0
dtype: int64
```

histogram plot

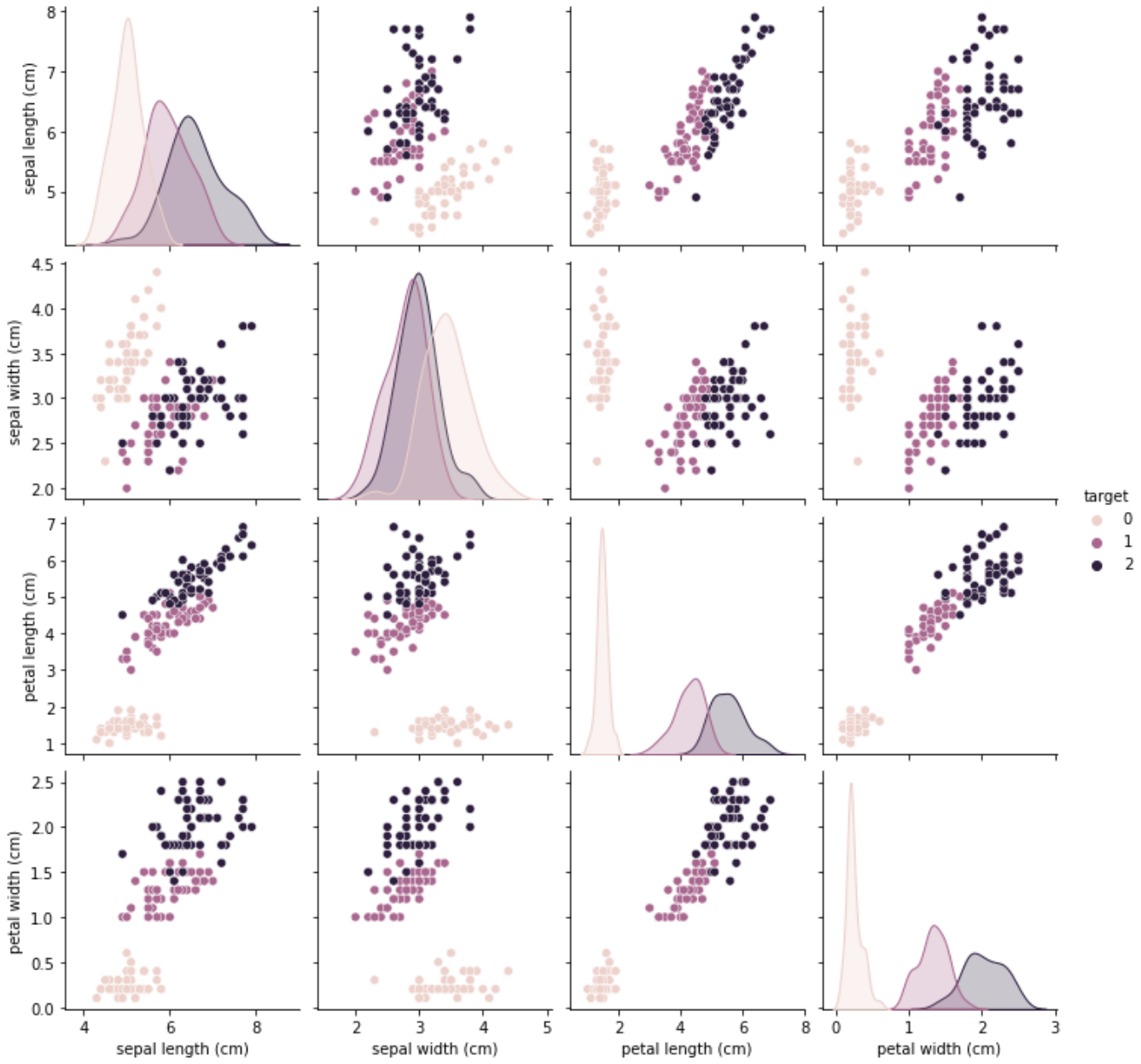
```
df.hist(edgecolor='black',figsize=(10,10))
plt.show()
```



pair plot

```
sns.pairplot(df, hue="target")
```

```
<seaborn.axisgrid.PairGrid at 0x7f2fb6066710>
```




```
from sklearn import metrics
from sklearn.metrics import accuracy_score
```

```
x = df.drop('target', axis=1)
y= df.target
```

```
from sklearn.linear_model import LogisticRegression
from sklearn.model_selection import train_test_split

x_train, x_test, y_train, y_test = train_test_split(x, y, test_size=0.3, random_state=5)


logreg = LogisticRegression()
logreg.fit(x, y)
logreg.fit(x_train,y_train)
y_pred = logreg.predict(x)
```

```
/usr/local/lib/python3.7/dist-packages/sklearn/linear_model/_logistic.py:818: Convergenc
STOP: TOTAL NO. of ITERATIONS REACHED LIMIT.

Increase the number of iterations (max_iter) or scale the data as shown in:
    https://scikit-learn.org/stable/modules/preprocessing.html
Please also refer to the documentation for alternative solver options:
    https://scikit-learn.org/stable/modules/linear_model.html#logistic-regression
  extra_warning_msg=_LOGISTIC_SOLVER_CONVERGENCE_MSG,
/usr/local/lib/python3.7/dist-packages/sklearn/linear_model/_logistic.py:818: Convergenc
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    https://scikit-learn.org/stable/modules/linear_model.html#logistic-regression
  extra_warning_msg=_LOGISTIC_SOLVER_CONVERGENCE_MSG,
```

Accuracy score

```
print(metrics.accuracy_score(y, y_pred))
```

```
0.98
```

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