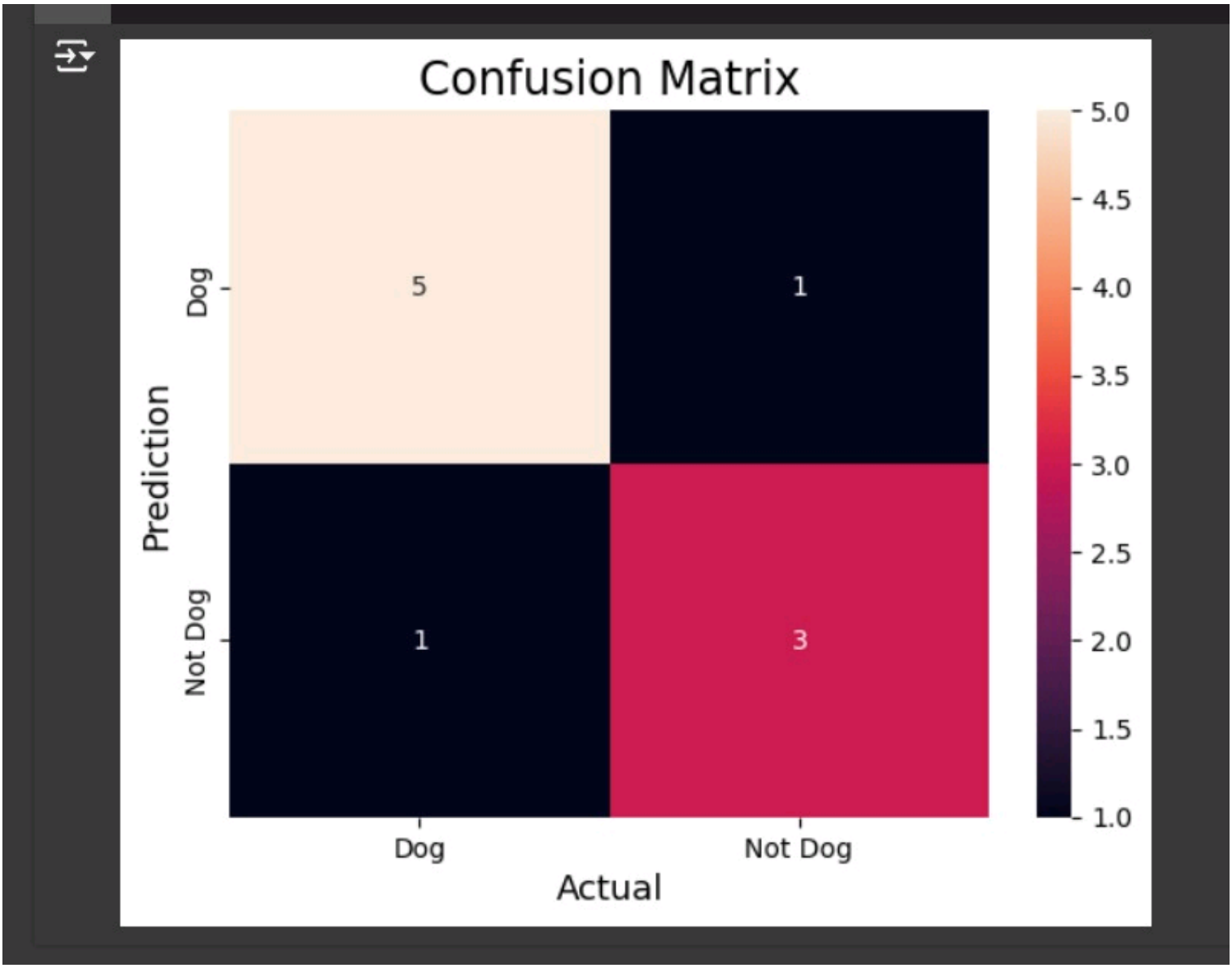
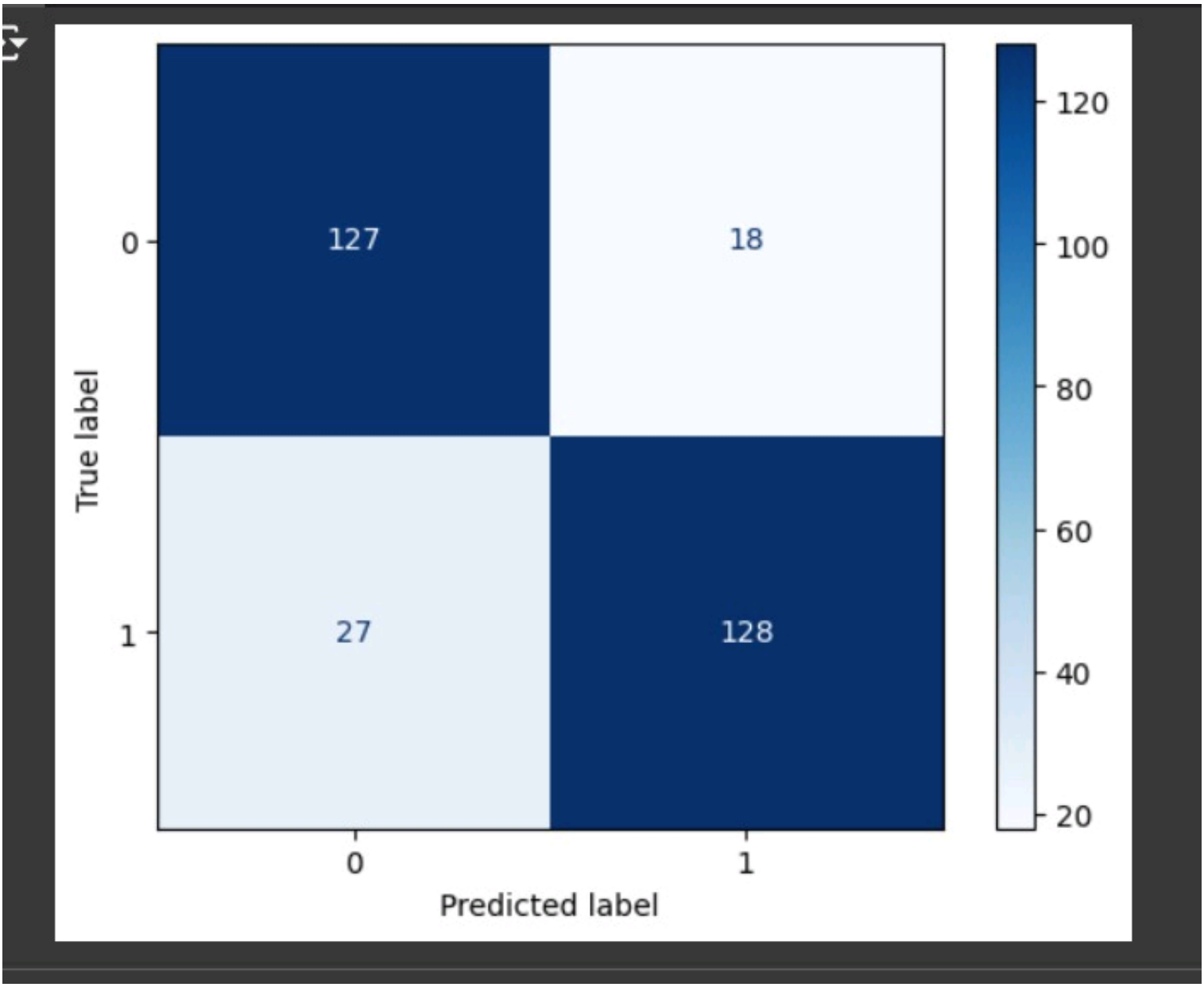
0s

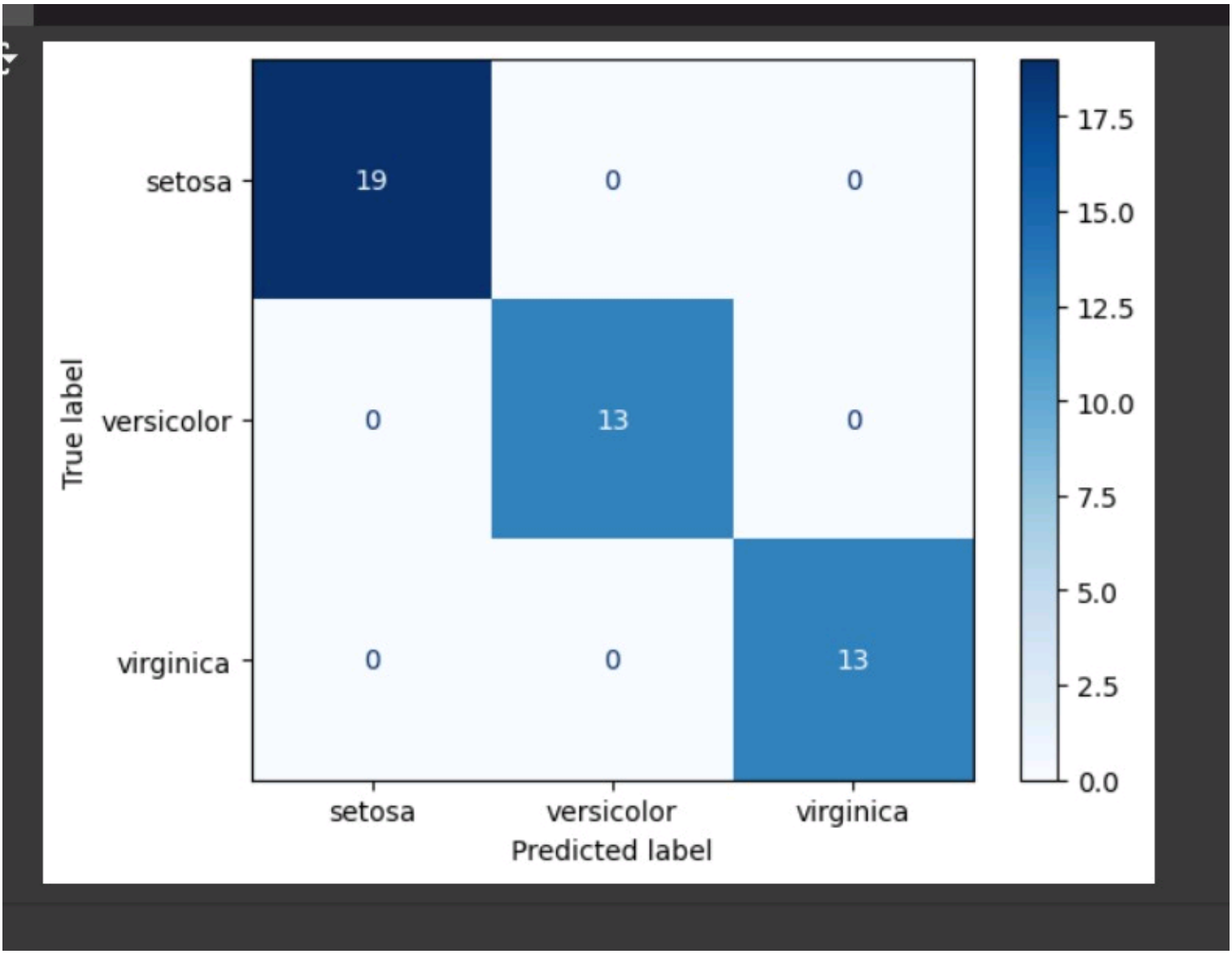
```
import numpy as np
from sklearn.metrics import confusion_matrix
import seaborn as sns
import matplotlib.pyplot as plt

#Create the NumPy array for actual and predicted labels.
actual    = np.array(
  ['Dog','Dog','Dog','Not Dog','Dog','Not Dog','Dog','Dog','Not Dog','Not Dog'])
predicted = np.array(
  ['Dog','Not Dog','Dog','Not Dog','Dog','Dog','Dog','Dog','Not Dog','Not Dog'])

#compute the confusion matrix.
cm = confusion_matrix(actual,predicted)

#Plot the confusion matrix.
sns.heatmap(cm,
            annot=True,
            fmt='g',
            xticklabels=['Dog','Not Dog'],
            yticklabels=['Dog','Not Dog'])
plt.ylabel('Prediction',fontsize=13)
plt.xlabel('Actual',fontsize=13)
plt.title('Confusion Matrix',fontsize=17)
plt.show()
```


Confusion Matrix
Prediction
Dog
Not Dog
5
1
1
3
Dog
Not Dog
Actual
5.0
4.5
4.0
3.5
3.0
2.5
2.0
1.5
1.0

```python
# Import necessary libraries
from sklearn.datasets import make_classification
from sklearn.model_selection import train_test_split
from sklearn.linear_model import LogisticRegression
from sklearn.metrics import confusion_matrix, ConfusionMatrixDisplay
import matplotlib.pyplot as plt

# Generate synthetic data
X, y = make_classification(n_samples=1000, n_features=20, n_classes=2, random_state=42)

# Split the data into training and test sets
X_train, X_test, y_train, y_test = train_test_split(X, y, test_size=0.3, random_state=42)

# Train a logistic regression model
model = LogisticRegression()
model.fit(X_train, y_train)

# Make predictions
y_pred = model.predict(X_test)

# Compute the confusion matrix
cm = confusion_matrix(y_test, y_pred)

# Display the confusion matrix using Matplotlib
disp = ConfusionMatrixDisplay(confusion_matrix=cm, display_labels=model.classes_)
disp.plot(cmap=plt.cm.Blues)
plt.show()
```


127
18
27
128
0
1
True label
0
1
Predicted label
120
100
80
60
40
20

```python
# Import necessary libraries
from sklearn.datasets import load_iris
from sklearn.model_selection import train_test_split
from sklearn.linear_model import LogisticRegression
from sklearn.metrics import confusion_matrix, ConfusionMatrixDisplay
import matplotlib.pyplot as plt

# Load the Iris dataset
iris = load_iris()
X, y = iris.data, iris.target

# Split the data into training and test sets
X_train, X_test, y_train, y_test = train_test_split(X, y, test_size=0.3, random_state=42)

# Train a logistic regression model
model = LogisticRegression(max_iter=200)
model.fit(X_train, y_train)

# Make predictions
y_pred = model.predict(X_test)

# Compute the confusion matrix
cm = confusion_matrix(y_test, y_pred)

# Display the confusion matrix using Matplotlib
disp = ConfusionMatrixDisplay(confusion_matrix=cm, display_labels=iris.target_names)
disp.plot(cmap=plt.cm.Blues)
plt.show()
```


setosa
versicolor
virginica
True label
19
0
0
0
13
0
0
0
13
setosa
versicolor
virginica
Predicted label
17.5
15.0
12.5
10.0
7.5
5.0
2.5
0.0