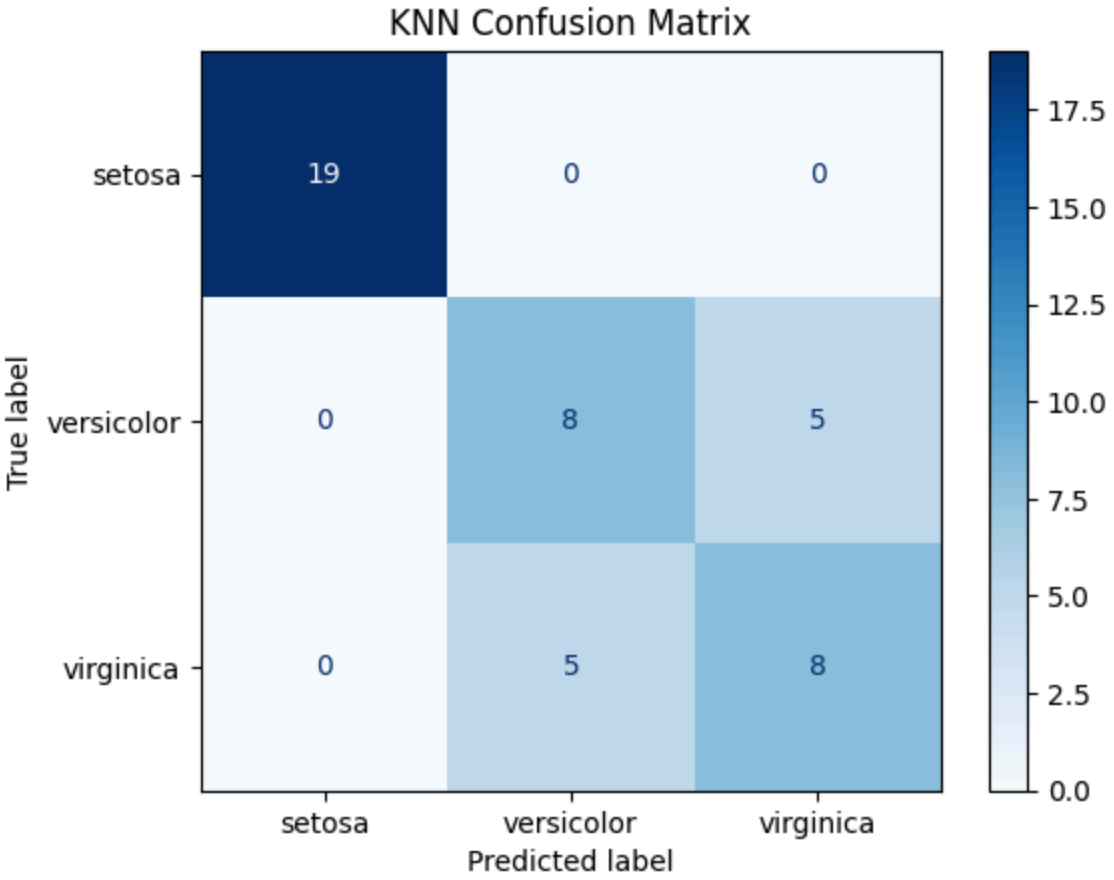
To implement a K nearest neighbours (KNN) classifier

In [1]:
```
import matplotlib.pyplot as plt
import seaborn as sns
from sklearn.datasets import load_iris
from sklearn.model_selection import train_test_split
from sklearn.neighbors import KNeighborsClassifier
from sklearn.metrics import confusion_matrix, ConfusionMatrixDisplay, accuracy


iris = load_iris()
X = iris.data[:, :2]
y = iris.target


X_train, X_test, y_train, y_test = train_test_split(X, y, test_size=0.3, randc

# Train KNN model
knn = KNeighborsClassifier(n_neighbors=5)
knn.fit(X_train, y_train)

# Predictions
y_pred = knn.predict(X_test)

# Accuracy
print("Accuracy:", accuracy_score(y_test, y_pred))

# Confusion Matrix
cm = confusion_matrix(y_test, y_pred)
disp = ConfusionMatrixDisplay(confusion_matrix=cm, display_labels=iris.target_
disp.plot(cmap='Blues')
plt.title("KNN Confusion Matrix")
plt.show()
```

```
Accuracy: 0.7777777777777778
```


KNN Confusion Matrix
setosa
versicolor
virginica
True label
19
0
0
0
8
5
0
5
8
setosa
versicolor
virginica
Predicted label
17.5
15.0
12.5
10.0
7.5
5.0
2.5
0.0