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In [20]: from sklearn import datasets
from sklearn.tree import DecisionTreeClassifier
from sklearn.model_selection import train_test_split
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In [21]: iris = datasets.load_iris()
x_train, x_test, y_train, y_test = train_test_split(iris.data, iris.target, random_state = 1)
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In [22]: clf = DecisionTreeClassifier()
clf.fit(x_train, y_train)
```

Out[22]: DecisionTreeClassifier()

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In [23]: y_train_pred = clf.predict(x_train)
y_test_pred = clf.predict(x_test)
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In [24]: from sklearn.metrics import confusion_matrix
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In [25]: confusion_matrix(y_train, y_train_pred)
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Out[25]: array([[37, 0, 0],
[ 0, 34, 0],
[ 0, 0, 41]], dtype=int64)

```
In [26]: confusion_matrix(y_test, y_test_pred)
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Out[26]: array([[13, 0, 0],
[ 0, 15, 1],
[ 0, 0, 9]], dtype=int64)

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In [35]: from sklearn.tree import export_graphviz
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In [37]: dot_data = export_graphviz(clf, out_file=None,
feature_names=iris.feature_names,
class_names=iris.target_names, filled=True, rounded=True)
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In [38]: import pydotplus
from IPython.display import Image
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In [39]: graph = pydotplus.graph_from_dot_data(dot_data)
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In [40]: Image(graph.create_png())
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