print classification report

In [13]:
```
print('\nClassification Report:')
print(classification_report(y_test, y_pred, target_names=iris.target_names))
```

```
Classification Report:
              precision    recall  f1-score   support

      setosa       1.00      1.00      1.00        10
  versicolor       1.00      1.00      1.00         9
   virginica       1.00      1.00      1.00        11

    accuracy                           1.00        30
   macro avg       1.00      1.00      1.00        30
weighted avg       1.00      1.00      1.00        30
```

When using classification models in machine learning, there are three common metrics that we use to assess the quality of the model:

Precision: Percentage of correct positive predictions relative to total positive predictions.

Recall: Percentage of correct positive predictions relative to total actual positives.

F1 Score: A weighted harmonic mean of precision and recall. The closer to 1, the better the model.

F1 Score: 2 * (Precision * Recall) / (Precision + Recall)

VIVA

In [47]:
```
import pandas as pd
from sklearn.tree import DecisionTreeClassifier
from sklearn.preprocessing import LabelEncoder

from sklearn.metrics import accuracy_score, precision_score, recall_score, f1_score, confusio
```

In [44]:
```
clf_credit = DecisionTreeClassifier()
clf_credit.fit(x_train, y_train)
```

Out[44]:
```
DecisionTreeClassifier()
```

In [45]:
```
accuracy_pred = accuracy_score(y_test, y_pred)
print(f'Accuracy on training data: {accuracy_pred * 100:.2f}%')
```

```
Accuracy on training data: 100.00%
```

In [50]:
```
print(f'Accuracy Score: {accuracy_score(y_test, y_pred)*100:.03f}%')
```

```
Accuracy Score: 100.000%
```

In [52]:
```
print('\nClassification Report:')
print(classification_report(y_test, y_pred, target_names=iris.target_names))
```

```
Classification Report:
              precision    recall  f1-score   support

      setosa       1.00      1.00      1.00        10
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    accuracy                           1.00        30
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```

In [ ]: