

```
In [44]: ##### Scale data using StandardScaler #####
import functions as fns
from sklearn.datasets import load_iris
import seaborn as sns
import pandas as pd
import matplotlib.pyplot as plt
iris = load_iris()
```

```
In [45]: # scale_features_using_standard_scaler
data_scaled = fns.scale_features_using_standard_scaler(iris.data)
```

```
In [46]: # Display DataFrame
df_data = fns.create_dataframe(data_scaled, iris.feature_names)
df_data.head(10)
```

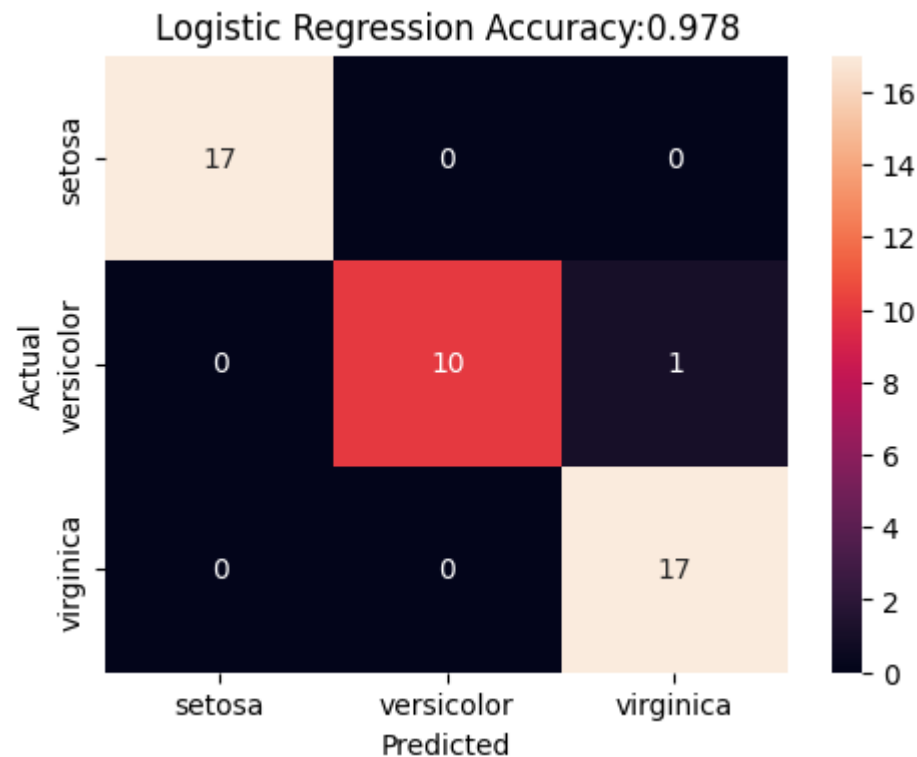
```
Out[46]:
```

| | sepal length (cm) | sepal width (cm) | petal length (cm) | petal width (cm) |
|---|-------------------|------------------|-------------------|------------------|
| 0 | -0.900681 | 1.019004 | -1.340227 | -1.315444 |
| 1 | -1.143017 | -0.131979 | -1.340227 | -1.315444 |
| 2 | -1.385353 | 0.328414 | -1.397064 | -1.315444 |
| 3 | -1.506521 | 0.098217 | -1.283389 | -1.315444 |
| 4 | -1.021849 | 1.249201 | -1.340227 | -1.315444 |
| 5 | -0.537178 | 1.939791 | -1.169714 | -1.052180 |
| 6 | -1.506521 | 0.788808 | -1.340227 | -1.183812 |
| 7 | -1.021849 | 0.788808 | -1.283389 | -1.315444 |
| 8 | -1.748856 | -0.362176 | -1.340227 | -1.315444 |
| 9 | -1.143017 | 0.098217 | -1.283389 | -1.447076 |

```
In [47]: # Split the data into training and testing sets
from sklearn.model_selection import train_test_split
X_train, X_test, y_train, y_test = train_test_split(data_scaled, iris.target, test_size=0.3)
```

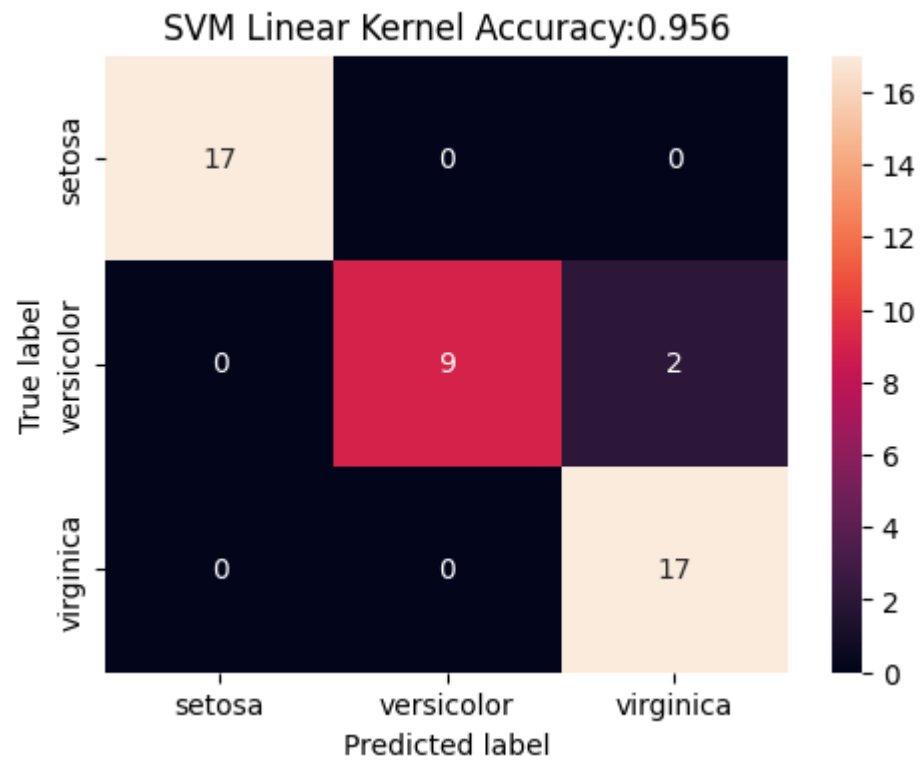
```
In [48]: # train_model_using_logistic_regression
cm, accuracyLR, precision, recall, f1 = fns.train_model_using_logistic_regression(X_train, X_test, y_train, y_test,
```

```
accuracy_LR : 0.978
precision_LR : 0.978
recall_LR : 0.978
f1-score_LR : 0.978
```



```
In [49]: # train_model_using_support_vector_classification
cm, accuracySVC, precision, recall, f1 = fns.train_model_using_support_vector_classification(X_train, X_test, y_tra
```

accuracy_SVC : 0.956
precision_SVC : 0.956
recall_SVC : 0.956
f1-score_SVC : 0.956



```
In [50]: # compare_logistic_regression_vs_vector_classification_accuracy
fns.compare_logistic_regression_vs_vector_classification_accuracy(accuracyLR, accuracySVC);
```

| | Model | Accuracy_score |
|---|-------------------------------|----------------|
| 0 | Logistic Regression | 0.977778 |
| 1 | Support Vector Classification | 0.955556 |

In []: