Aim:- Write a Program to implement Support Vector Machine on Iris data set and analyze the accuracy with Logistic Regression.

Objective:- Applying SVC (Support Vector Classifier) and Logistic regression to check accuracy and performance of Dataset.

```
# Importing necessary libraries
from sklearn import datasets
from sklearn.model_selection import train_test_split
from sklearn.preprocessing import StandardScaler
from sklearn.svm import SVC
from sklearn.linear_model import LogisticRegression
from sklearn.metrics import accuracy_score

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

# Standardize the feature values (important for SVM)
scaler = StandardScaler()
X_train = scaler.fit_transform(X_train)
X_test = scaler.transform(X_test)

# Train the SVM model
svm_model = SVC(kernel='linear')  # Linear kernel
svm_model.fit(X_train, y_train)
```

```
SVC(kernel='linear')
```

```
# Train the Logistic Regression model
lr_model = LogisticRegression(max_iter=200)
lr_model.fit(X_train, y_train)
```

```
LogisticRegression(max_iter=200)
```

```
# Make predictions using both models
y_pred_svm = svm_model.predict(X_test)
y_pred_lr = lr_model.predict(X_test)

# Evaluate the models using accuracy
accuracy_svm = accuracy_score(y_test, y_pred_svm)
accuracy_lr = accuracy_score(y_test, y_pred_lr)

# Print the accuracy results
print(f"SVM Accuracy: {accuracy_svm * 100:.2f}%")
print(f"Logistic Regression Accuracy: {accuracy_lr * 100:.2f}%")
```

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SVM Accuracy: 97.78%
Logistic Regression Accuracy: 100.00%
```

```
print("The End")
```

```
The End
```