```
import numpy as np
import pandas as pd
import matplotlib.pyplot as plt
from sklearn.datasets import load_iris
from sklearn.model_selection import train_test_split
from sklearn.linear_model import LogisticRegression
from sklearn.metrics import roc_curve, auc

iris = load_iris()
X = iris.data[:, :2]  # Select sepal length and sepal width
y = iris.target

binary_mask = (y == 0) | (y == 1)  # Only select classes 0 and 1
X_binary = X[binary_mask]
y_binary = y[binary_mask]

X_train, X_test, y_train, y_test = train_test_split(X_binary,
y_binary, test_size=0.3, random_state=42)

# Step 4: Train a logistic regression model
model = LogisticRegression()
model.fit(X_train, y_train)
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LogisticRegression()
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y_score = model.predict_proba(X_test)[:, 1]

fpr, tpr, thresholds = roc_curve(y_test, y_score)
roc_auc = auc(fpr, tpr)

# Step 7: Plot the ROC curve
plt.figure(figsize=(8, 6))
plt.plot(fpr, tpr, color='blue', lw=2, label='ROC curve (area =
{:.2f})'.format(roc_auc))
plt.plot([0, 1], [0, 1], color='red', lw=2, linestyle='--')  #
Diagonal line
plt.xlim([0.0, 1.0])
plt.ylim([0.0, 1.0])
plt.xlabel('False Positive Rate')
plt.ylabel('True Positive Rate')
plt.title('Receiver Operating Characteristic (ROC) Curve')
plt.legend(loc='lower right')
plt.grid()
plt.show()
```

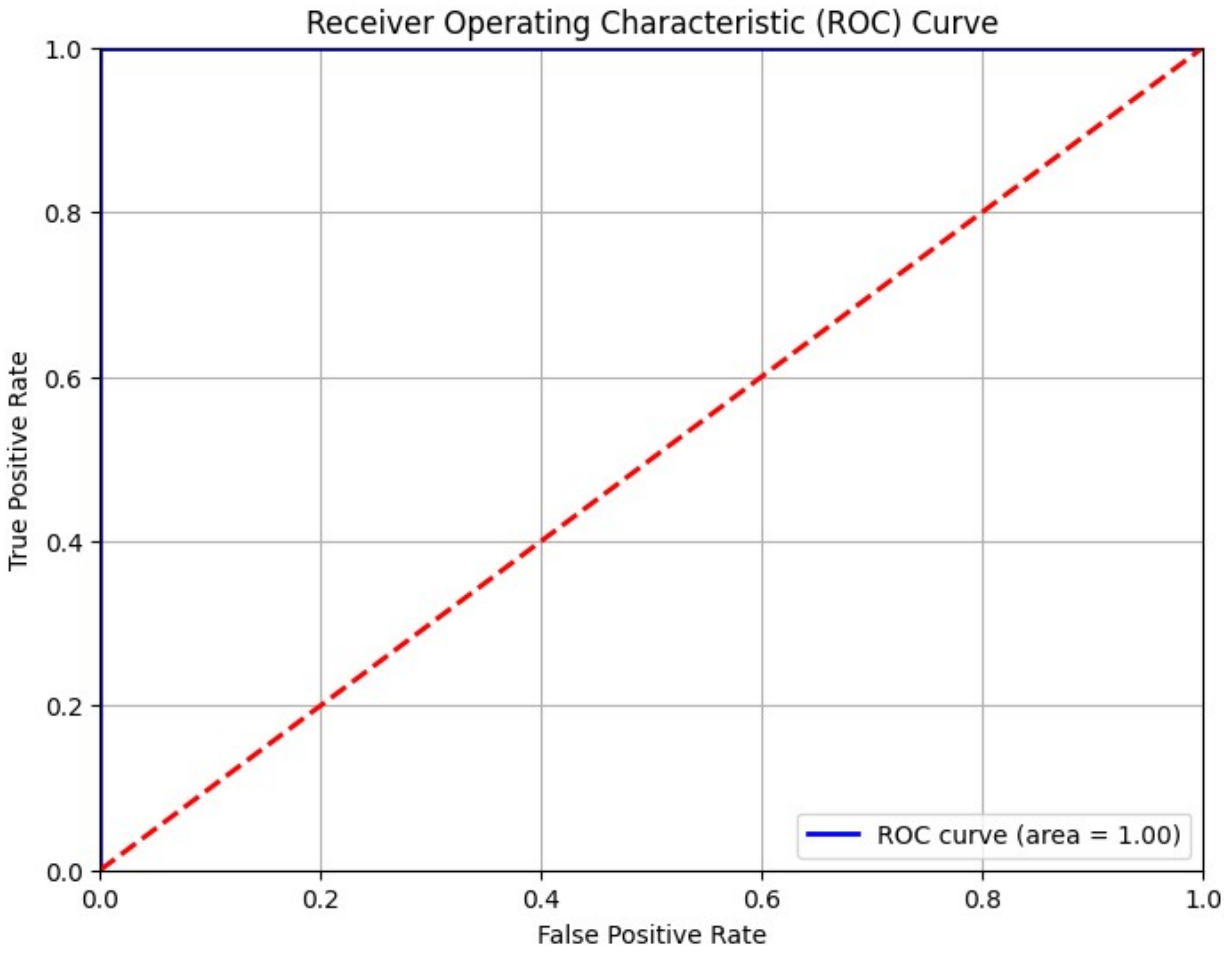
Receiver Operating Characteristic (ROC) Curve
True Positive Rate
False Positive Rate
0.0
0.2
0.4
0.6
0.8
1.0
ROC curve (area = 1.00)

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roc_auc
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```
1.0
```