import numpy as np  
from sklearn import metrics  
import matplotlib.pyplot as plt  
  
true\_labels = np.array([  
 [0, 0, 1],  
 [0, 1, 0],  
 [1, 0, 0],  
 [0, 0, 1],  
 [1, 0, 0],  
 [0, 1, 0],  
 [0, 1, 0],  
 [0, 1, 0],  
 [0, 0, 1],  
 [0, 1, 0]  
])  
  
predict\_scores = np.array([  
 [0.1, 0.2, 0.7],  
 [0.1, 0.6, 0.3],  
 [0.5, 0.2, 0.3],  
 [0.1, 0.1, 0.8],  
 [0.4, 0.2, 0.4],  
 [0.6, 0.3, 0.1],  
 [0.4, 0.2, 0.4],  
 [0.4, 0.1, 0.5],  
 [0.1, 0.1, 0.8],  
 [0.1, 0.8, 0.1]  
])  
  
colors = ['red', 'blue', 'green']  
labels = ['Class 0', 'Class 1', 'Class 2']  
plt.figure(figsize=(10, 8))  
  
for i in range(3):  
 fpr, tpr, thresholds = metrics.roc\_curve(true\_labels[:, i], predict\_scores[:, i])  
 roc\_auc = metrics.auc(fpr, tpr)  
 plt.plot(fpr, tpr, color=colors[i], label=f'{labels[i]} (AUC = {roc\_auc:.2f})')  
  
plt.xlim([0.0, 1.0])  
plt.ylim([0.0, 1.05])  
plt.xlabel('False Positive Rate')  
plt.ylabel('True Positive Rate')  
plt.title('Receiver Operating Characteristic')  
plt.legend(loc="lower right")  
plt.show()