import pandas as pd

from sklearn.metrics import classification\_report, recall\_score, f1\_score

data = pd.read\_csv('\Prediction result label\output\_with\_labels.csv', encoding='GBK')

y\_true = data['label']

y\_pred = data['predicted label']

report = classification\_report(y\_true, y\_pred, output\_dict=True)

for label, metrics in report.items():

if label not in ['accuracy', 'macro avg', 'weighted avg']:

print(f"Class {label} - Recall: {metrics['recall']:.4f}")

f1 = f1\_score(y\_true, y\_pred, average='macro')

print(f"Final F1 Score: {f1:.4f}")