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[1]: import numpy as np
import pandas as pd

[2]: from sklearn.model_selection import train_test_split

[3]: from sklearn.feature_extraction.text import CountVectorizer

[4]: from sklearn import svm

[5]: from sklearn.metrics import classification_report

[6]: import nltk

[7]: from nltk.corpus import stopwords

[8]: from nltk.stem import WordNetLemmatizer

[ ]: df = pd.read_csv('D:\abc\data sheet.csv')

[ ]: # Preprocessing
df['text'] = df['text'].str.lower() # Convert text to lowercase
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[ ]: df['text'] = df['text'].str.replace('[^\w\s]', '') # Remove punctuation

[ ]: # Tokenization
nltk.download('stopwords')

[ ]: stop_words = set(stopwords.words('english'))

[ ]: df['text'] = df['text'].apply(lambda x: ' '.join([word for word in x.split
if word not in stop_words]))

[ ]: # Lemmatization
nltk.download('wordnet')
lemmatizer = WordNetLemmatizer()
df['text'] = df['text'].apply(lambda x: ' '.join([lemmatizer.lemmatize(word) for word in x.split()])))

[ ]: X_train, X_test, y_train, y_test = train_test_split(df['text'], df['label'], test_size=0.2, random_state=42)

[ ]: vectorizer = CountVectorizer()
X_train_features = vectorizer.fit_transform(X_train)
X_test_features = vectorizer.transform(X_test)
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[ ]: vectorizer = CountVectorizer()
X_train_features = vectorizer.fit_transform(X_train)
X_test_features = vectorizer.transform(X_test)

[ ]: classifier = svm.SVC()
classifier.fit(X_train_features, y_train)

[ ]: y_pred = classifier.predict(X_test_features)
print(classification_report(y_test, y_pred))
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