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Import tweepy
Import re
Import nltk
From nltk.corpus import stopwords
From sklearn.feature_extraction.text import CountVectorizer
From sklearn.naive_bayes import MultinomialNB
From sklearn.pipeline import Pipeline

# Step 1: Twitter Data Collection
Def authenticate_twitter(api_key, api_secret, access_token, access_secret):
   Auth = tweepy.OAuthHandler(api_key, api_secret)
   Auth.set_access_token(access_token, access_secret)
   Return tweepy.API(auth)

# Step 2: Data Preprocessing
Def preprocess(text):
   Text = re.sub(r"http\S+|@\S+|[^A-Za-z\s]", "", text)
   Text = text.lower()
   Tokens = nltk.word_tokenize(text)
   Return " ".join([word for word in tokens if word not in stopwords.words('english')])

# Step 3 & 4: Emotion Detection and Classification Model
Def train_model(X_train, y_train):
   Model = Pipeline([
      ('vectorizer', CountVectorizer()),
      ('classifier', MultinomialNB())
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    ])
    Model.fit(X_train, y_train)
    Return model

Def classify_emotion(model, tweet):
    Cleaned = preprocess(tweet)
    Return model.predict([cleaned])[0]

# Example usage
If __name__ == “__main__”:
    # Example API keys (replace with actual)
    Api_key = ‘YOUR_API_KEY’
    Api_secret = ‘YOUR_API_SECRET’
    Access_token = ‘YOUR_ACCESS_TOKEN’
    Access_secret = ‘YOUR_ACCESS_SECRET’

    # Load model or train with labeled data
    # model = train_model(X_train_data, y_train_labels)

    # Example tweet
    # tweet = “I am so happy and excited today!”
    # print(“Emotion:”, classify_emotion(model, tweet))
```