

CAIS 117: Intro to Programming with Python

Spring 2024

In-class Activity 06: Simple Predictions

Activity is DUE as indicated on the course schedule. This is a **group assignment**; work with 1-2 classmates.

Goals:

- Create a simple Natural Language Processing Program

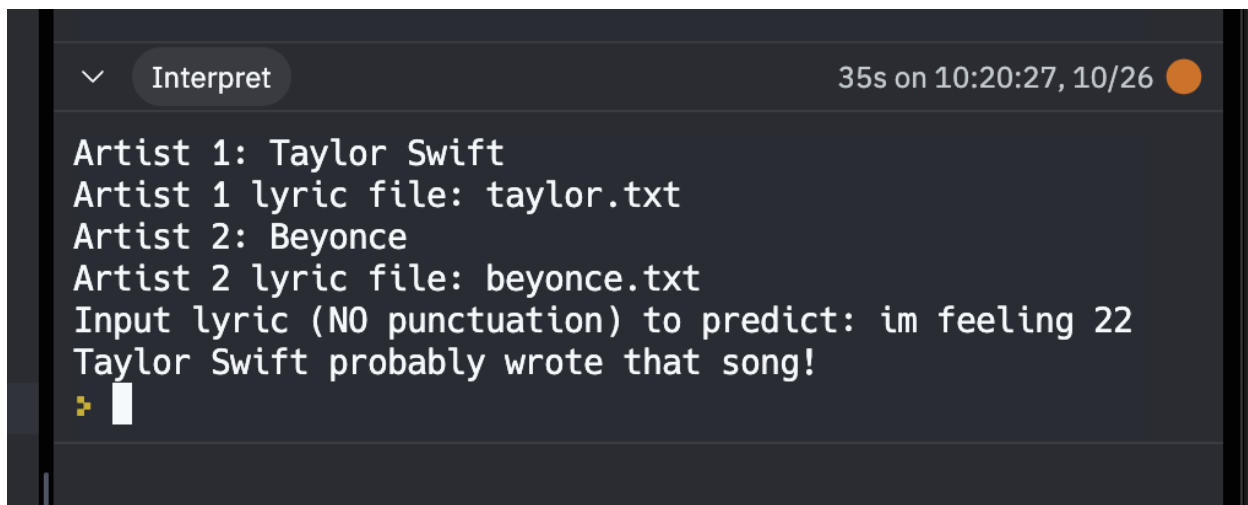
Part 1

For this assignment you will write a very simple natural language processing program that will:

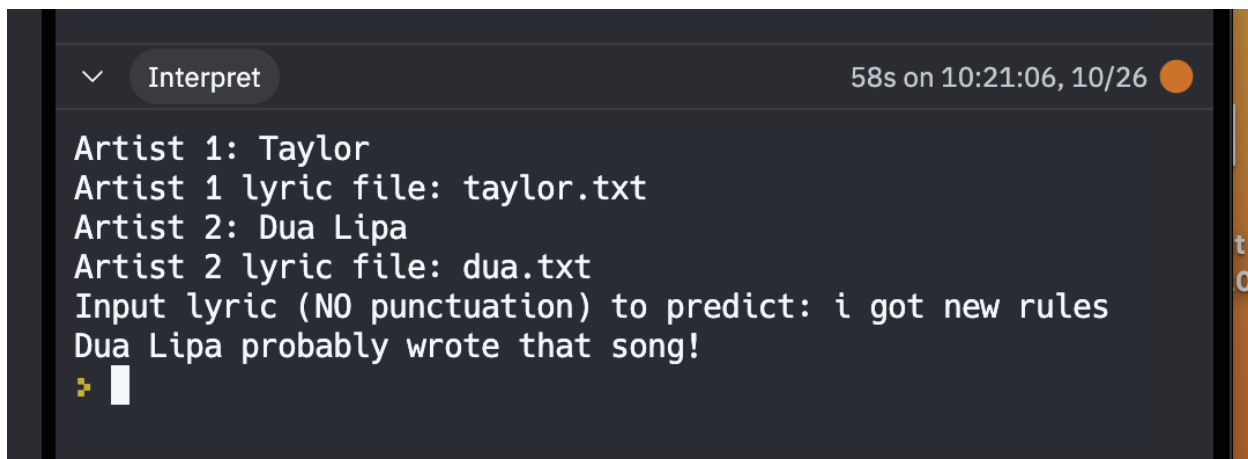
- Ask the user for 2 artists and the filename for the files containing each artist's lyrics.
- Read the artist's lyrics in the user specified file into lists. (You are provided the following text files to work with under the Demos tab on the course website: taylor.txt, beyonce.txt, billie.txt, cardi.txt, dua.txt)
- Create a word count dictionary for each artist. The word count dictionary should have a key for each word that shows up in an artist's lyrics, and the value for each key should be the number of times that word shows up.
 - For example, if the user input:
 - Taylor Swift
 - taylor.txt
 - And taylor.txt contained: "it feels like a perfect night to dress up like hipsters and make fun of our exes ah ah ah ah it feels like a perfect night for breakfast at midnight to fall in love with strangers ah ah ah ah"

- The word count dictionary would be:
 - {"it":2, "feels":2, "like":3, "a":2, "perfect":2, "night":2, "to":2, "dress":1, "up":1, "hipsters":1, "and":1, "make":1, "fun":1, "of":1, "our":1, "exes":1, "ah":8, "for":1, "breakfast":1, "at":1, "midnight":1, "fall":1, "in":1, "love":1, "with":1, "strangers":1}
- After dictionaries are complete for two artists, the program should ask the user for a lyric. It will take that lyric and predict which artist sang it by summing how many times each individual word in the lyric is used by each artist. The artist with the higher sum is the prediction.
- Keep in mind your program should work with any artists and files of lyrics.

Here is what your program's interface should look like:



```
Interpret 35s on 10:20:27, 10/26
Artist 1: Taylor Swift
Artist 1 lyric file: taylor.txt
Artist 2: Beyonce
Artist 2 lyric file: beyonce.txt
Input lyric (NO punctuation) to predict: im feeling 22
Taylor Swift probably wrote that song!
```



```
Interpret 58s on 10:21:06, 10/26
Artist 1: Taylor
Artist 1 lyric file: taylor.txt
Artist 2: Dua Lipa
Artist 2 lyric file: dua.txt
Input lyric (NO punctuation) to predict: i got new rules
Dua Lipa probably wrote that song!
```

Submission

Save your code in a GitHub repository. Copy the link to the repository into a PDF and submit your PDF as a group on Gradescope.