Jory Fhel R. Benedicto
BSIT - 3

Question: **What makes Mariah Carey's "All I Want for Christmas is You" the best Christmas song of all time?**

<h2 style="color:red; text-align:center">DATA CLEANING</h2>

Songs Dataframe (CORPUS)

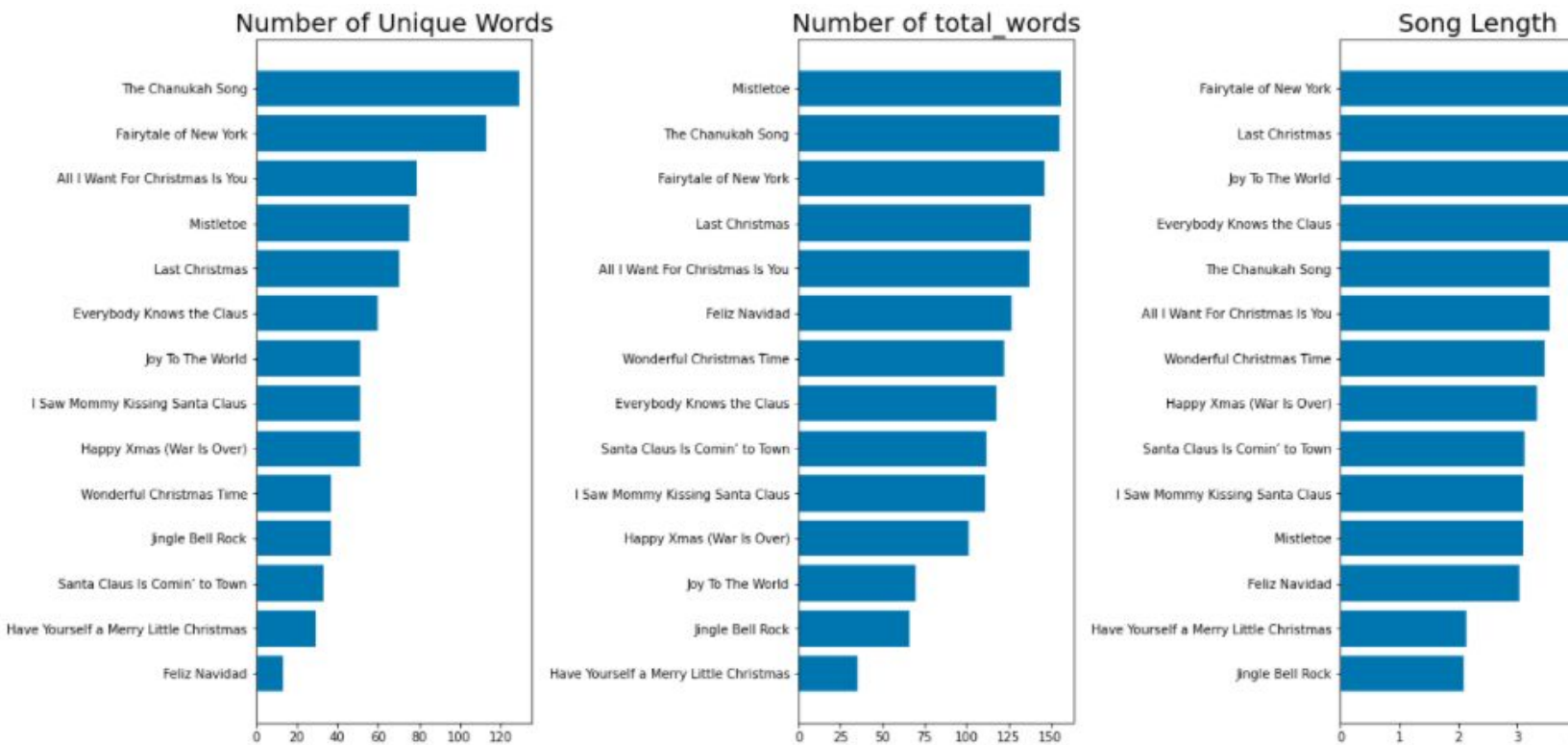|	transcript	artists
All I Want For Christmas Is You	I don't want a lot for Christmas\nThere is just one thing I need\nI don't care about the presents\nUnderneath the Christmas tree\nI just want you ...	Mariah Carey
Everybody Knows the Claus	Don't you smell the cookies he's baking\nCan't yo usee the belly he's shakin'\nDon't take a cokkie off that pan\nYou don't want to mess with this ...	Hanson
Fairytale of New York	Advisory - the following lyrics contain explicit language: It was Christmas Eve, babe\nIn the drunk tank\nAn old man said to me\n"Won't see anothe...	The Pogues
Feliz Navidad	Feliz Navidad\nFeliz Navidad\nFeliz Navidad, prospero aÃ±o y felicidad Feliz Navidad\nFeliz Navidad\nFeliz Navidad, prospero aÃ±o y felicidad \nI ...	Jose Feliciano
Happy Xmas (War Is Over)	So this is Christmas\nAnd what have you done Another year over\nAnd a new one just begun\nAnd so this is Christmas\nI hope you have fun\nThe near ...	John Lennon
Have Yourself a Merry Little Christmas	Have yourself a merry little Christmas\nLet your heart be light\nFrom now on our troubles will be out of sight Have yourself a merry little Christ...	Cat Power
I Saw Mommy Kissing Santa Claus	(kiss sound) Wow! Mommy's kissing Santa Claus!\nI saw Mommy kissing Santa Claus\nUnderneath the mistletoe last night\nShe didn't see me creep\nDow...	The Jackson 5
Jingle Bell Rock	Jingle bell, jingle bell, jingle bell rock\nJingle bells swing and jingle bells ring\nSnowing and blowing up bushels of fun\nNow the jingle hop ha...	Paul McCartney
Joy To The World	Joy to the world! the Lord is come;\nLet earth receive her King;\nLet every heart prepare Him room,\nand heaven and nature sing,\nand heaven and n...	Earth Wind & Fire
Last Christmas	Last Christmas I gave you my heart\nBut the very next day you gave it away\nThis year, to save me from tears\nI'll give it to someone special Last...	Wham!
Mistletoe	It's the most beautiful time of the year\nLights fill the streets spreading so much cheer\nI should be playing in the winter snow\nBut I'mma be un...	Justin Bieber
Santa Claus Is Comin' to Town	You'd better watch out, you'd better not cry\nYou'd better not pout, I'm telling you why\nSanta Claus is coming to town\nSanta Claus is coming to ...	Bruce Springsteen
The Chanukah Song	Okay\nThis is a song that uhh\nThere's a lot of Christmas songs out there and uhh\nNot too many Chanukah songs\nSo uhh\nI wrote a song for all tho...	Adam Sandler
Wonderful Christmas Time	The mood is right\nThe spirits up\nWe're here tonight\nAnd that's enough Simply having a wonderful Christmas time\nSimply having a wonderful Chris...	Hall & Oates

DOCUMENT-TERM MATRIX

	abbyharrison	advisory	againlast	agent	air	airand	allowhang	alonei	alonguntil	amingle	...	yougot	youits	youll	young	younga	you
All I Want For Christmas Is You	0	0	0	0	0	1	0	0	0	0	...	0	0	0	0	0	
Everybody Knows the Claus	0	0	0	0	1	0	0	0	1	0	...	0	0	0	0	0	
Fairytale of New York	0	1	0	0	0	0	0	1	0	0	...	1	1	0	0	0	
Feliz Navidad	0	0	0	0	0	0	0	0	0	0	...	0	0	0	0	0	
Happy Xmas (War Is Over)	0	0	0	0	0	0	0	0	0	0	...	0	0	0	1	1	
Have Yourself a Merry Little Christmas	0	0	0	0	0	0	1	0	0	0	...	0	0	0	0	0	
I Saw Mommy Kissing Santa Claus	0	0	0	0	0	0	0	0	0	0	...	0	0	0	0	0	
Jingle Bell Rock	0	0	0	0	1	0	0	0	0	1	...	0	0	0	0	0	
Joy To The World	0	0	0	0	0	0	0	0	0	0	...	0	0	0	0	0	
Last Christmas	0	0	2	0	0	0	0	0	0	0	...	0	0	1	0	0	
Mistletoe	0	0	0	0	0	0	0	0	0	0	...	0	0	0	0	0	
Santa Claus Is Comin'to Town	0	0	0	0	0	0	0	0	0	0	...	0	0	0	0	0	
The Chanukah Song	1	0	0	1	0	0	0	0	0	0	...	0	0	0	0	0	
Wonderful Christmas Time	0	0	0	0	0	0	0	0	0	0	...	0	0	0	0	0	

14 rows × 701 columns

Word Cloud

All I Want For Christmas Is You

Everybody Knows the Claus

Fairytale of New York

Feliz Navidad

Happy Xmas (War Is Over)

Have Yourself a Merry Little Christmas

I Saw Mommy Kissing Santa Claus

Jingle Bell Rock

Joy To The World

Last Christmas

Mistletoe

Santa Claus Is Comin' to Town

The Chanukah Song

Wonderful Christmas Time

Plotting the Unique Words, the number of total words, and the song's length.

Number of Unique Words

Song	
The Chanukah Song	
Fairytale of New York	
All I Want For Christmas Is You	
Mistletoe	
Last Christmas	
Everybody Knows the Claus	
Joy To The World	
I Saw Mommy Kissing Santa Claus	
Happy Xmas (War Is Over)	
Wonderful Christmas Time	
Jingle Bell Rock	
Santa Claus Is Comin' to Town	
Have Yourself a Merry Little Christmas	
Feliz Navidad	

(x-axis: 0, 20, 40, 60, 80, 100, 120)

Number of total_words

Song	
Mistletoe	
The Chanukah Song	
Fairytale of New York	
Last Christmas	
All I Want For Christmas Is You	
Feliz Navidad	
Wonderful Christmas Time	
Everybody Knows the Claus	
Santa Claus Is Comin' to Town	
I Saw Mommy Kissing Santa Claus	
Happy Xmas (War Is Over)	
Joy To The World	
Jingle Bell Rock	
Have Yourself a Merry Little Christmas	

(x-axis: 0, 25, 50, 75, 100, 125, 150)

Song Length

Song	
Fairytale of New York	
Last Christmas	
Joy To The World	
Everybody Knows the Claus	
The Chanukah Song	
All I Want For Christmas Is You	
Wonderful Christmas Time	
Happy Xmas (War Is Over)	
Santa Claus Is Comin' to Town	
I Saw Mommy Kissing Santa Claus	
Mistletoe	
Feliz Navidad	
Have Yourself a Merry Little Christmas	
Jingle Bell Rock	

(x-axis: 0, 1, 2, 3)

SENTIMENT ANALYSIS

Plotting The Polarity and Subjectivity

```
In [3]: # Create quick lambda functions to find the polarity and subjectivity of each song
        from textblob import TextBlob

        pol = lambda x: TextBlob(x).sentiment.polarity
        sub = lambda x: TextBlob(x).sentiment.subjectivity

        data['polarity'] = data['transcript'].apply(pol)
        data['subjectivity'] = data['transcript'].apply(sub)
        data
```
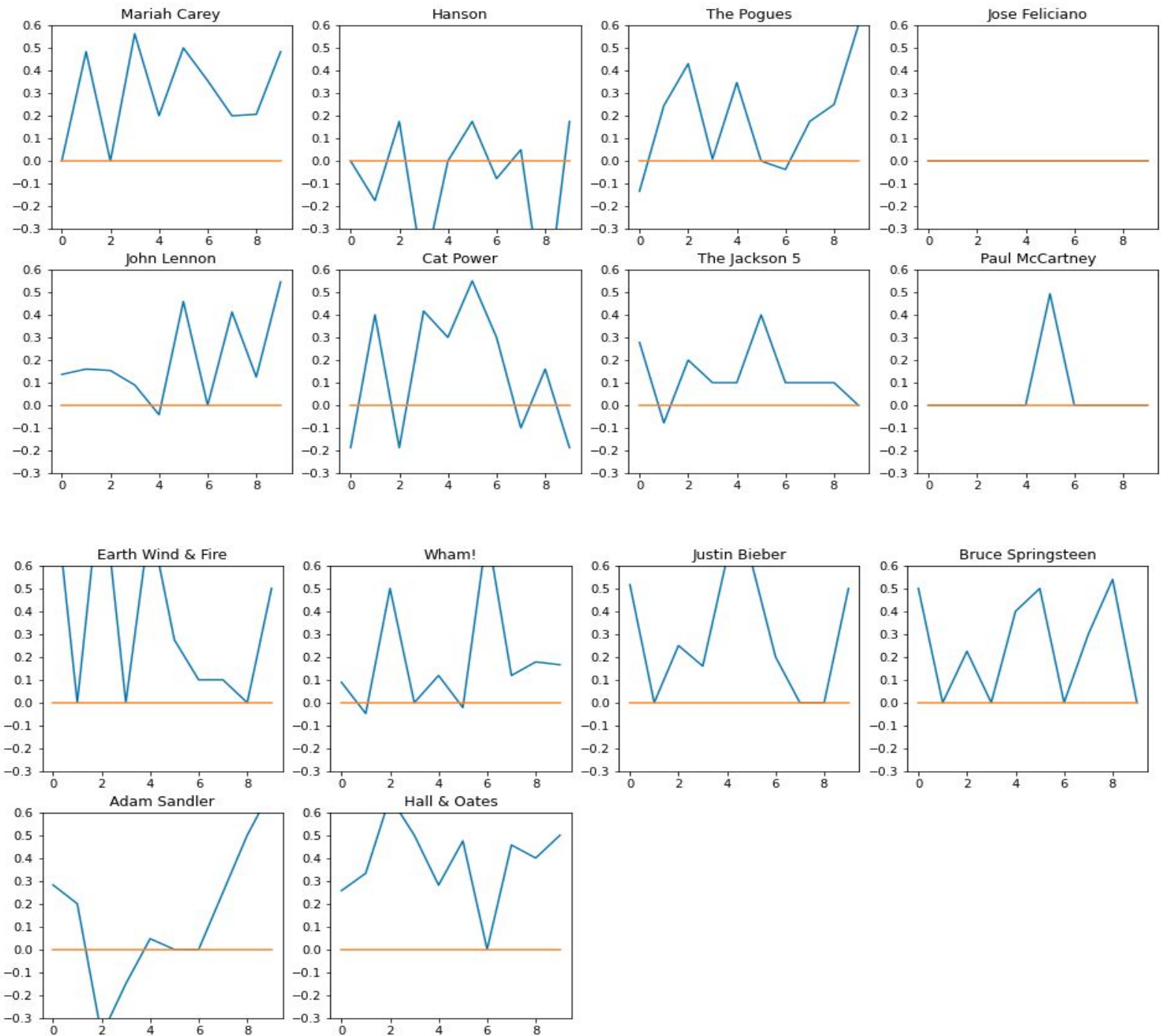
Out[3]:

	transcript	artists	polarity	subjectivity
All I Want For Christmas Is You	I don't want a lot for Christmas\nThere is jus...	Mariah Carey	0.404524	0.596071
Everybody Knows the Claus	Don't you smell the cookies he's baking\nCan't...	Hanson	0.009028	0.409722
Fairytale of New York	Advisory - the following lyrics contain explic...	The Pogues	0.203904	0.566923
Feliz Navidad	Feliz Navidad\nFeliz Navidad\nFeliz Navidad, p...	Jose Feliciano	0.000000	0.000000
Happy Xmas (War Is Over)	So this is Christmas\nAnd what have you done A...	John Lennon	0.254500	0.482254
Have Yourself a Merry Little Christmas	Have yourself a merry little Christmas\nLet yo...	Cat Power	0.225417	0.568333
I Saw Mommy Kissing Santa Claus	(kiss sound) Wow! Mommy's kissing Santa Claus!...	The Jackson 5	0.131122	0.350292
Jingle Bell Rock	Jingle bell, jingle bell, jingle bell rock\nJi...	Paul McCartney	0.428571	0.511905
Joy To The World	Joy to the world! the Lord is come;\nLet earth...	Earth Wind & Fire	0.465385	0.561538
Last Christmas	Last Christmas I gave you my heart\nBut the ve...	Wham!	0.138265	0.329082
Mistletoe	It's the most beautiful time of the year\nLigh...	Justin Bieber	0.493571	0.642143
Santa Claus Is Comin' to Town	You'd better watch out, you'd better not cry\n...	Bruce Springsteen	0.423913	0.579710
The Chanukah Song	Okay\nThis is a song that uhh\nThere's a lot o...	Adam Sandler	0.266000	0.529333
Wonderful Christmas Time	The mood is right\nThe spirits up\nWe're here ...	Hall & Oates	0.399052	0.646120

Plotting The Results

Sentiment Analysis

Y-axis: `<-- Facts -------- Opinions -->`

X-axis: `<-- Negative -------- Positive -->`

Hall & Oates

Justin Bieber

Mariah Carey

Bruce Springsteen

Earth Wind & Fire

The Pogues Power

Paul McCartney

Adam Sandler

John Lennon

Hanson

The Jackson 5
Wham!

Jose Feliciano

Plot Of All Songs

All of these results, creating a natural language processing using sentiment analysis show that the Mariah Carey "All I Want for Christmas is You" song the best Christmas song of all time.

Reference/Web Page links:

https://www.metrolyrics.com/all-i-want-for-christmas-is-you-lyrics-mariah-carey.html',
'https://www.metrolyrics.com/fairytale-of-new-york-and-kirsty-maccoll-lyrics-pogues.html',
'https://www.metrolyrics.com/last-christmas-lyrics-wham.html',
'https://www.metrolyrics.com/the-chanukah-song-lyrics-adam-sandler.html',
'https://www.metrolyrics.com/wonderful-christmas-time-lyrics-christmas-music.html',
'https://www.metrolyrics.com/happy-xmas-war-is-over-lyrics-john-lennon.html',
'https://www.metrolyrics.com/joy-to-the-world-lyrics-earth-wind-fire.html',

'https://www.metrolyrics.com/santa-claus-is-comin-to-town-live-at-cw-post-lyrics-bruce-springsteen.html',
'https://www.metrolyrics.com/have-yourself-a-merry-little-christmas-lyrics-cat-power.html',
'https://www.metrolyrics.com/i-saw-mommy-kissing-santa-claus-lyrics-jackson-5.html',
'https://www.metrolyrics.com/everybody-knows-the-claus-lyrics-hanson.html',
'https://www.metrolyrics.com/mistletoe-lyrics-justin-bieber.html',
'https://www.metrolyrics.com/feliz-navidad-lyrics-jose-feliciano.html',
'https://www.metrolyrics.com/jingle-bell-rock-daryls-version-lyrics-daryl-hall-john-oates.html