```
In [1]:  import pandas as pd
         import numpy as np
         import scipy
         import matplotlib.pyplot as plt
         import seaborn as sns
         from sklearn.cluster import KMeans
         from sklearn.preprocessing import normalize
         from sklearn.decomposition import PCA
         from sklearn.cluster import MiniBatchKMeans
         from sklearn.cluster import KMeans
         from sklearn.preprocessing import normalize
         from sklearn.model_selection import train_test_split
         from sklearn.decomposition import PCA
         %matplotlib inline

         import spacy
         import re as re
         from collections import Counter
         from sklearn.feature_extraction.text import TfidfTransformer
         from sklearn.feature_extraction.text import CountVectorizer
         from sklearn.feature_extraction.text import TfidfVectorizer
         from sklearn import linear_model
         from sklearn.metrics import accuracy_score
         from sklearn.naive_bayes import MultinomialNB
         from sklearn.naive_bayes import GaussianNB
         from gensim.models import doc2vec
         from collections import namedtuple
         nlp = spacy.load('en_core_web_sm')
         import en_core_web_sm
         import csv
         import chardet
         import codecs
         import nltk
```

```
C:\Users\mille\Conda3\lib\site-packages\gensim\utils.py:1197: UserWarning: de
tected Windows; aliasing chunkize to chunkize_serial
  warnings.warn("detected Windows; aliasing chunkize to chunkize_serial")
```

```
In [167]:  df = pd.read_csv('/Users/mille/Desktop/Unit 4 - Capstone/songdata.csv')
```

```
In [168]:  df = df.drop(columns=['link'])
```

In [169]:
```python
df['text'] = df['text'].str.replace('\n', '')
df['text'] = df['text'].str.replace("'", '')
df['text'] = df['text'].str.replace(',', '')
df['text'] = df['text'].str.replace('?', '')


df.head()
```

Out[169]:

	artist	song	text
0	ABBA	Ahe's My Kind Of Girl	Look at her face its a wonderful face And it ...
1	ABBA	Andante, Andante	Take it easy with me please Touch me gently I...
2	ABBA	As Good As New	Ill never know why I had to go Why I had to p...
3	ABBA	Bang	Making somebody happy is a question of give an...
4	ABBA	Bang-A-Boomerang	Making somebody happy is a question of give an...

In [170]:
```python
df['text'][0]
```

Out[170]: 'Look at her face its a wonderful face And it means something special to me Look at the way that she smiles when she sees me How lucky can one fellow be Shes just my kind of girl she makes me feel fine Who could ever believe that she could be mine Shes just my kind of girl without her Im blue And if she ever leaves me what could I do what could I do   And when we go for a walk in the park And she holds me and squeezes my hand Well go on walking for hours and talking About all the things that we plan   Shes just my kind of girl she makes me feel fine Who could ever believe that she could be mine Shes just my kind of girl without her Im blue And if she ever leaves me what could I do what could I do'

In [171]:
```python
df['song'] = df['song'].str.replace("'", '')
df['song'] = df['song'].str.replace(',', '')
df['song'] = df['song'].str.replace('-', ' ')


df.head()
```

Out[171]:

	artist	song	text
0	ABBA	Ahes My Kind Of Girl	Look at her face its a wonderful face And it ...
1	ABBA	Andante Andante	Take it easy with me please Touch me gently I...
2	ABBA	As Good As New	Ill never know why I had to go Why I had to p...
3	ABBA	Bang	Making somebody happy is a question of give an...
4	ABBA	Bang A Boomerang	Making somebody happy is a question of give an...

```
In [172]: df['song'][1:10]
```

```
Out[172]: 1          Andante Andante
          2          As Good As New
          3                     Bang
          4          Bang A Boomerang
          5          Burning My Bridges
          6                 Cassandra
          7                Chiquitita
          8               Crazy World
          9            Crying Over You
          Name: song, dtype: object
```

```
In [173]: df.index
          df.columns

          pd.DataFrame(df)
          #complete dataset 365 rows x 11 columns

          df.shape
```

```
Out[173]: (57650, 3)
```

```
In [174]: df.isnull().sum()
```

```
Out[174]: artist    0
          song      0
          text      0
          dtype: int64
```

```
In [175]: df.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 57650 entries, 0 to 57649
Data columns (total 3 columns):
artist    57650 non-null object
song      57650 non-null object
text      57650 non-null object
dtypes: object(3)
memory usage: 1.3+ MB
```

```
In [176]: stopwords = nltk.corpus.stopwords.words('english')
```

```
In [177]: print(stopwords[:10])
```

```
['i', 'me', 'my', 'myself', 'we', 'our', 'ours', 'ourselves', 'you', "you'r
e"]
```

```
In [178]: from sklearn.feature_extraction.text import TfidfVectorizer
          from sklearn.cluster import KMeans
          from sklearn.metrics import adjusted_rand_score
```

In [179]: `print(df.info())`

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 57650 entries, 0 to 57649
Data columns (total 3 columns):
artist    57650 non-null object
song      57650 non-null object
text      57650 non-null object
dtypes: object(3)
memory usage: 1.3+ MB
None
```

In [180]: `pd.set_option("display.max_rows", 999)`

In [181]: `count = df['artist'].value_counts()`

In [182]:
```python
#showing all artists in the dataset
print('The count of artist is:', count)
```

```
The count of artist is: Donna Summer                            191
Gordon Lightfoot                        189
Bob Dylan                               188
George Strait                           188
Loretta Lynn                            187
Reba Mcentire                           187
Cher                                    187
Alabama                                 187
Chaka Khan                              186
Dean Martin                             186
Neil Young                              185
Hank Williams Jr.                       185
America                                 184
Nazareth                                184
Indigo Girls                            184
Cliff Richard                           184
Johnny Cash                             183
Kiss                                    183
Chris Rea                               182
Bon Jovi                                181
Fleetwood Mac                           180
Dolly Parton                            180
Rolling Stones                          179
Deep Purple                             179
Roy Orbison                             178
Rod Stewart                             178
The Beatles                             178
Morrissey                               177
Iggy Pop                                177
Randy Travis                            177
James Taylor                            177
Michael W. Smith                        176
Michael Jackson                         176
Bruce Springsteen                       175
Dusty Springfield                       175
Elton John                              175
Rush                                    175
Green Day                               174
Air Supply                              174
Moody Blues                             174
Alice Cooper                            174
Kenny Rogers                            174
Emmylou Harris                          173
Red Hot Chili Peppers                   173
Kenny Chesney                           173
Neil Diamond                            173
Kylie Minogue                           172
Hillsong                                172
Nick Cave                               172
Ramones                                 172
Vince Gill                              171
Aerosmith                               171
Kinks                                   170
John Prine                              170
Bee Gees                                170
Cheap Trick                             170
Kris Kristofferson                      170
```

Gary Numan	170
Joni Mitchell	170
Paul McCartney	169
John Denver	168
Dave Matthews Band	168
Carly Simon	168
Elvis Presley	168
Uriah Heep	168
Michael Bolton	167
Ray Charles	167
Scorpions	167
Depeche Mode	167
Diana Ross	167
Robbie Williams	166
Korn	166
Marilyn Manson	166
David Bowie	165
Grateful Dead	165
Jimmy Buffett	164
Backstreet Boys	164
Pearl Jam	164
Glee	164
Pet Shop Boys	164
Lou Reed	164
Hillsong United	164
Phish	163
Ella Fitzgerald	163
Queen	163
Who	163
Status Quo	162
Helloween	162
Conway Twitty	162
David Allan Coe	162
Cyndi Lauper	161
Hank Williams	160
Marianne Faithfull	160
Tom T. Hall	160
Chicago	160
Judas Priest	159
Glen Campbell	159
Mariah Carey	159
Hank Snow	158
Britney Spears	158
Bob Seger	158
Leann Rimes	158
Bette Midler	158
Counting Crows	158
Nina Simone	158
Bing Crosby	157
Kelly Clarkson	157
Barbra Streisand	157
George Harrison	157
Ozzy Osbourne	157
Paul Simon	156
Iron Maiden	156
Lenny Kravitz	156
Black Sabbath	156

Natalie Cole	155
Metallica	155
Frank Sinatra	154
Hollies	154
Kenny Loggins	153
Kate Bush	153
John Mellencamp	152
Eric Clapton	152
Waylon Jennings	152
Beach Boys	151
Billie Holiday	150
Journey	150
Van Morrison	150
Radiohead	150
Linda Ronstadt	150
Oasis	149
Beautiful South	149
Bonnie Raitt	149
Marillion	149
Nat King Cole	149
Tim McGraw	148
Willie Nelson	148
The Monkees	148
Perry Como	148
Electric Light Orchestra	148
Amy Grant	147
Miley Cyrus	147
Def Leppard	147
Squeeze	146
Ne-Yo	146
Olivia Newton-John	146
Christina Aguilera	146
Elvis Costello	146
Chris Brown	145
Harry Connick, Jr.	145
Alison Krauss	145
R. Kelly	145
Wanda Jackson	145
Modern Talking	144
XTC	144
Lynyrd Skynyrd	144
Avril Lavigne	143
NOFX	143
Rihanna	143
Foo Fighters	142
Eurythmics	142
Genesis	141
Billy Joel	141
Tom Jones	141
UB40	140
Christmas Songs	140
INXS	140
Jackson Browne	139
Stevie Wonder	139
Erasure	138
Andy Williams	138
Roxette	138

```
George Jones                137
Judy Garland                137
Luther Vandross             137
Lady Gaga                   137
Insane Clown Posse          136
Blur                        136
Overkill                    135
Westlife                    134
Megadeth                    133
U2                          133
Tragically Hip              132
ZZ Top                      132
Justin Bieber               131
Hanson                      129
Louis Armstrong             129
Eddie Cochran               128
Chuck Berry                 127
Jimi Hendrix                127
Toto                        127
Lil Wayne                   125
Engelbert Humperdinck       125
Nitty Gritty Dirt Band      125
Linkin Park                 125
Devo                        125
Everclear                   123
Misfits                     122
Reo Speedwagon              122
Heart                       122
George Michael              122
Richard Marx                121
Lionel Richie               121
Styx                        121
P!nk                        120
Coldplay                    120
Offspring                   119
Slayer                      119
Incubus                     118
Clash                       118
The Temptations             117
Drake                       117
Usher                       117
Planetshakers               116
Allman Brothers Band        116
Celine Dion                 116
Leonard Cohen               116
Fabolous                    115
Cat Stevens                 114
Phil Collins                114
Point Of Grace              113
Arlo Guthrie                113
ABBA                        113
Lana Del Rey                113
LL Cool J                   113
Tina Turner                 112
King Diamond                112
Otis Redding                112
W.A.S.P.                    112
```

Carpenters	112
Michael Buble	112
Rascal Flatts	111
Kirk Franklin	111
Pink Floyd	111
Tori Amos	110
Maroon 5	110
Keith Urban	110
Jennifer Lopez	110
Doobie Brothers	110
Steve Miller Band	109
Faith Hill	109
Thin Lizzy	109
Kirsty Maccoll	108
Yes	108
Mary Black	108
Nine Inch Nails	108
Dan Fogelberg	108
Pat Benatar	106
Kanye West	106
Weird Al Yankovic	106
Prince	106
Janis Joplin	106
Yngwie Malmsteen	106
Alphaville	105
Norah Jones	105
Warren Zevon	105
Demi Lovato	105
Patti Smith	104
Santana	103
Whitesnake	103
Oingo Boingo	103
Nirvana	103
Gloria Estefan	102
Van Halen	102
Howard Jones	102
Wishbone Ash	102
Alan Parsons Project	102
Jason Mraz	101
Regine Velasquez	101
Ocean Colour Scene	100
Widespread Panic	100
Kid Rock	100
Pogues	100
Our Lady Peace	99
Frank Zappa	99
New Order	99
Boney M.	98
HIM	98
One Direction	98
Doors	97
Fall Out Boy	97
Guided By Voices	97
Ray Boltz	97
Ween	97
Neil Sedaka	97
Dream Theater	97

Kelly Family	97
Pretenders	96
Peter Gabriel	96
Poison	96
Alice In Chains	95
Ufo	95
Etta James	94
Gino Vannelli	94
Whitney Houston	93
Matt Redman	93
'n Sync	93
Great Big Sea	93
Guns N' Roses	93
Face To Face	93
Indiana Bible College	93
John Legend	93
Nickelback	92
Meat Loaf	92
Lucky Dube	92
Queensryche	91
Sting	90
Venom	90
Children	90
Townes Van Zandt	90
Noa	90
Katy Perry	89
Arrogant Worms	89
Weezer	89
Grand Funk Railroad	89
Madonna	88
Steely Dan	88
Patsy Cline	88
Nicki Minaj	88
Travis	88
Manowar	88
Procol Harum	86
Bob Marley	86
Lloyd Cole	86
Utopia	86
The Jam	86
Foreigner	86
John Waite	86
Leo Sayer	85
Yoko Ono	85
Josh Groban	85
Garth Brooks	85
Gucci Mane	84
Outkast	84
Primus	83
Religious Music	83
Violent Femmes	83
Tracy Chapman	82
Europe	82
Train	81
Taylor Swift	81
Nightwish	81
Ice Cube	80

Enrique Iglesias	79
Omd	78
O.A.R.	78
Everlast	78
Owl City	77
Sia	77
Evanescence	77
Ellie Goulding	77
Ian Hunter	77
Talking Heads	77
Zebrahead	76
Proclaimers	76
Culture Club	76
Crowded House	76
The Killers	75
Peter Cetera	75
Bread	75
Ace Of Base	74
Doris Day	74
Supertramp	74
Lea Salonga	74
Old 97's	74
Isley Brothers	73
Harry Belafonte	73
Cake	73
Waterboys	72
Pitbull	72
Soundgarden	72
Yellowcard	72
Natalie Imbruglia	72
Judds	71
Snoop Dogg	71
Within Temptation	71
Faith No More	71
Human League	71
Tom Waits	70
Kim Wilde	70
Irving Berlin	70
Eminem	70
Adam Sandler	70
Bruno Mars	70
Extreme	70
Ingrid Michaelson	69
Vanessa Williams	68
J Cole	68
Queens Of The Stone Age	68
Don McLean	67
Phineas And Ferb	67
Smiths	67
Nick Drake	67
Used	67
System Of A Down	67
Jim Croce	66
Tears For Fears	66
Natalie Grant	65
Rainbow	64
Christy Moore	64

The White Stripes	64
Roxy Music	64
Ziggy Marley	64
Keith Green	63
David Guetta	63
John McDermott	63
Sublime	63
Stone Temple Pilots	62
Ultravox	61
Dire Straits	61
Vonda Shepard	61
John Martyn	61
Puff Daddy	61
Death	60
Justin Timberlake	60
Incognito	60
Opeth	59
Fastball	59
Flo-Rida	59
Wet Wet Wet	58
Tim Buckley	58
Vertical Horizon	58
Young Jeezy	57
Quiet Riot	57
Yello	57
Gary Valenciano	56
Fiona Apple	56
Hooverphonic	56
Rick Astley	56
Rage Against The Machine	55
Horrible Histories	54
Olly Murs	54
Z-Ro	54
Adele	54
You Am I	54
Ed Sheeran	53
Wu-Tang Clan	53
Whiskeytown	53
Bosson	52
Verve	51
Ariana Grande	51
Utada Hikaru	51
Yeah Yeah Yeahs	50
Notorious B.I.G.	50
Peter Tosh	50
Virgin Steele	50
Queen Latifah	50
Joy Division	49
Gloria Gaynor	49
Tiffany	49
Velvet Underground	48
Veruca Salt	48
Bryan White	48
Frankie Valli	48
Lauryn Hill	48
Bob Rivers	48
Selah	48

```
Yolanda Adams                         48
Cinderella                            48
Xzibit                                47
Ten Years After                       47
Yo La Tengo                           47
Underoath                             46
Don Henley                            46
Freestyle                             46
Kyla                                  46
Mazzy Star                            46
Wyclef Jean                           45
Selena Gomez                          44
Rammstein                             44
King Crimson                          44
Creedence Clearwater Revival          43
Les Miserables                        42
Rem                                   42
Uncle Kracker                         42
Unwritten Law                         42
Spandau Ballet                        42
Ofra Haza                             41
Matt Monro                            41
Imagine Dragons                       41
Frankie Laine                         41
Queen Adreena                         41
Underworld                            41
Eagles                                41
Wiz Khalifa                           40
Fatboy Slim                           40
Erik Santos                           40
Uncle Tupelo                          40
Enya                                  40
Xavier Rudd                           40
Free                                  39
Don Moen                              39
Unearth                               39
Zoegirl                               38
Kari Jobe                             38
Stone Roses                           37
Xscape                                37
Faces                                 37
Vybz Kartel                           37
Out Of Eden                           36
Raffi                                 36
Quietdrive                            36
Ugly Kid Joe                          36
Tool                                  36
Christina Perri                       36
OneRepublic                           36
Inna                                  36
Little Mix                            35
Ying Yang Twins                       35
Passenger                             35
Enigma                                35
Vanilla Ice                           35
Bill Withers                          35
Unseen                                35
```

```
Starship                          34
Divine                            33
Idina Menzel                      33
Twenty One Pilots                 33
Men At Work                       33
Lata Mangeshkar                   32
Oliver                            32
Annie                             32
The Script                        32
Wilson Phillips                   32
Grease                            31
Zac Brown Band                    31
Zao                               30
Freddie King                      30
Pharrell Williams                 30
Zucchero                          30
Will Smith                        30
Zeromancer                        30
Savage Garden                     29
The Weeknd                        29
Wang Chung                        28
Frankie Goes To Hollywood         28
Unkle                             28
Israel                            28
Imperials                         27
Stevie Ray Vaughan                27
Louis Jordan                      27
Mud                               26
Quasi                             25
Aiza Seguerra                     25
Andrea Bocelli                    25
Xandria                           25
Xiu Xiu                           25
Wilson Pickett                    24
Happy Mondays                     24
Zero 7                            24
Israel Houghton                   24
Il Divo                           23
Aled Jones                        23
Carol Banawa                      23
Yazoo                             23
Housemartins                      23
Tom Lehrer                        23
Quarterflash                      23
X-Ray Spex                        22
Youth Of Today                    22
Yo Gotti                          22
Wham!                             21
Dewa 19                           21
Zakk Wylde                        21
Zox                               21
Inside Out                        20
Zebra                             20
Orphaned Land                     20
Oscar Hammerstein                 20
Sam Smith                         20
Ariel Rivera                      19
```

```
Quicksand                                           19
Iwan Fals                                           19
Quincy Jones                                        19
Youngbloodz                                         19
Jose Mari Chan                                      19
Halloween                                           18
Vangelis                                            18
X                                                   18
Fun.                                                18
Quincy Punx                                         18
High School Musical                                 18
Falco                                               18
Mark Ronson                                         18
Mc Hammer                                           18
Barbie                                              18
David Pomeranz                                      17
Young Buck                                          17
George Formby                                       17
Iron Butterfly                                      17
Cole Porter                                         17
Q-Tip                                               17
Fifth Harmony                                       17
Ultramagnetic Mc's                                  16
Yusuf Islam                                         15
Migos                                               15
Lorde                                               15
Quicksilver Messenger Service                       15
Zayn Malik                                          15
Imago                                               15
Yelawolf                                            14
Zwan                                                14
The Broadways                                       14
Freddie Aguilar                                     13
Vengaboys                                           13
Little Walter                                       13
GMB                                                 13
Zornik                                              12
X Japan                                             12
U. D. O.                                            12
Beauty And The Beast                                12
O-Zone                                              12
Vera Lynn                                           12
YG                                                  12
Walk The Moon                                       11
Independence Day                                    11
Side A                                              11
Yukmouth                                            11
Quarashi                                            10
Koes Plus                                           10
Yonder Mountain String Band                         10
Xentrix                                              9
Next To Normal                                       9
Yung Joc                                             9
Qntal                                                8
Joseph And The Amazing Technicolor Dreamcoat         8
Yeng Constantino                                     8
X-Raided                                             7
```

```
Young Dro                               7
Gipsy Kings                             5
Van Der Graaf Generator                 5
Unknown                                 4
Exo                                     3
Various Artists                         3
Xavier Naidoo                           3
Soundtracks                             3
Eppu Normaali                           3
Exo-K                                   2
Zazie                                   2
Ungu                                    2
U-Kiss                                  1
X-Treme                                 1
Zoe                                     1
Zed                                     1
Name: artist, dtype: int64
```

Setting it all up

Set up train/test split

y=artist

X=song, text

MODELS

1. Other methods – mean-shift, spectral, affinity
2. Neural network - Supervised & Unsupervised
3. NLP - Supervised & Unsupervised
4. word2vec

REPORT

3-5 pages report about the process... A. cited literature (google scholar)

```
1. Introduction (why and purpose)
2. Methods used (programs and statistical model i.e equations)
3. Results (tables, graphs, comparing all models in one place)
4. Conclusion/Discusion (what does all this mean, how does it benifit, insights, se
arch engines, how can we use this            stuff)
5. Literature cited (...)
```

Exploratory Data Analysis

In [72]:
```python
artist_count = Counter(df['artist'].dropna()).most_common(100)
artist_keys = [artist[0] for artist in artist_count]
artist_val = [artist[1] for artist in artist_count]

fig,ax = plt.subplots(figsize = (15,8))
sns.barplot(x = artist_keys, y = artist_val)
plt.title('Top 100 Artist')
plt.ylabel('Count')
ticks = plt.setp(ax.get_xticklabels(),rotation=90)
```
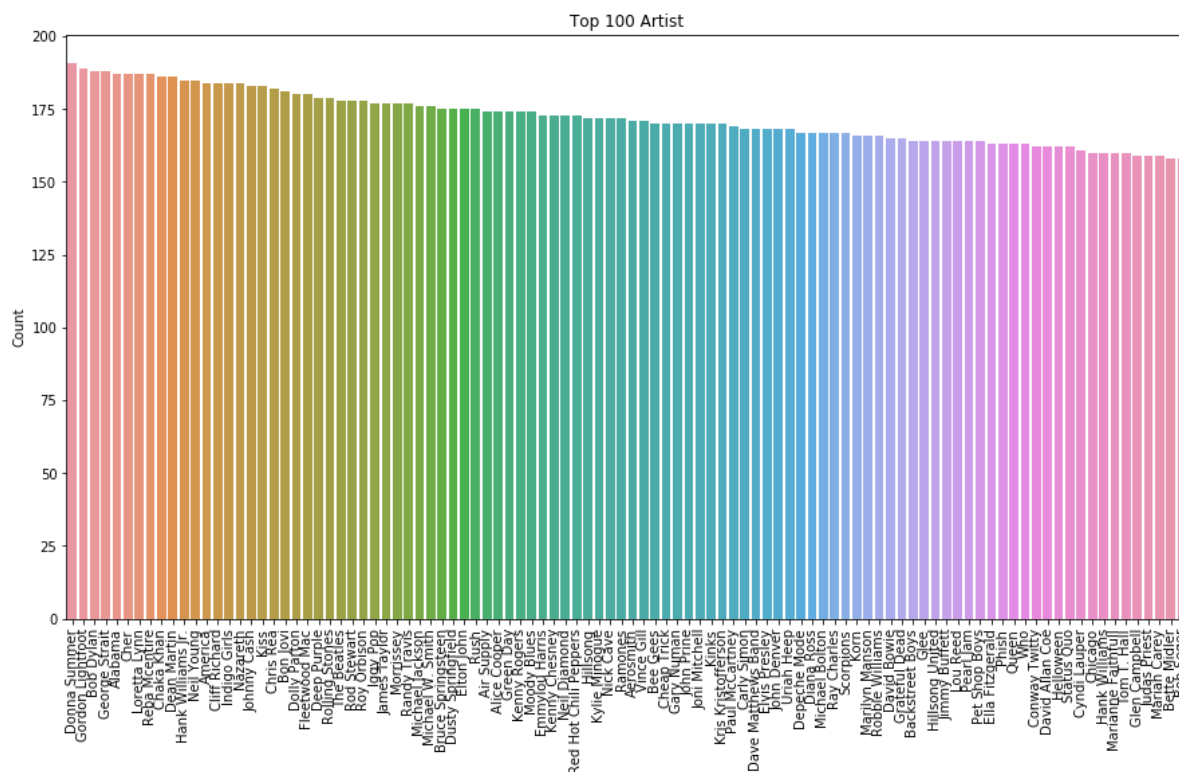
In [73]:
```python
artist_count = Counter(df['artist'].dropna()).most_common(50)
artist_keys = [artist[0] for artist in artist_count]
artist_val = [artist[1] for artist in artist_count]

fig,ax = plt.subplots(figsize = (15,8))
sns.boxplot(x = artist_keys, y = artist_val)
plt.title('Top 50 Artist')
plt.ylabel('Count')
ticks = plt.setp(ax.get_xticklabels(),rotation=90)
```
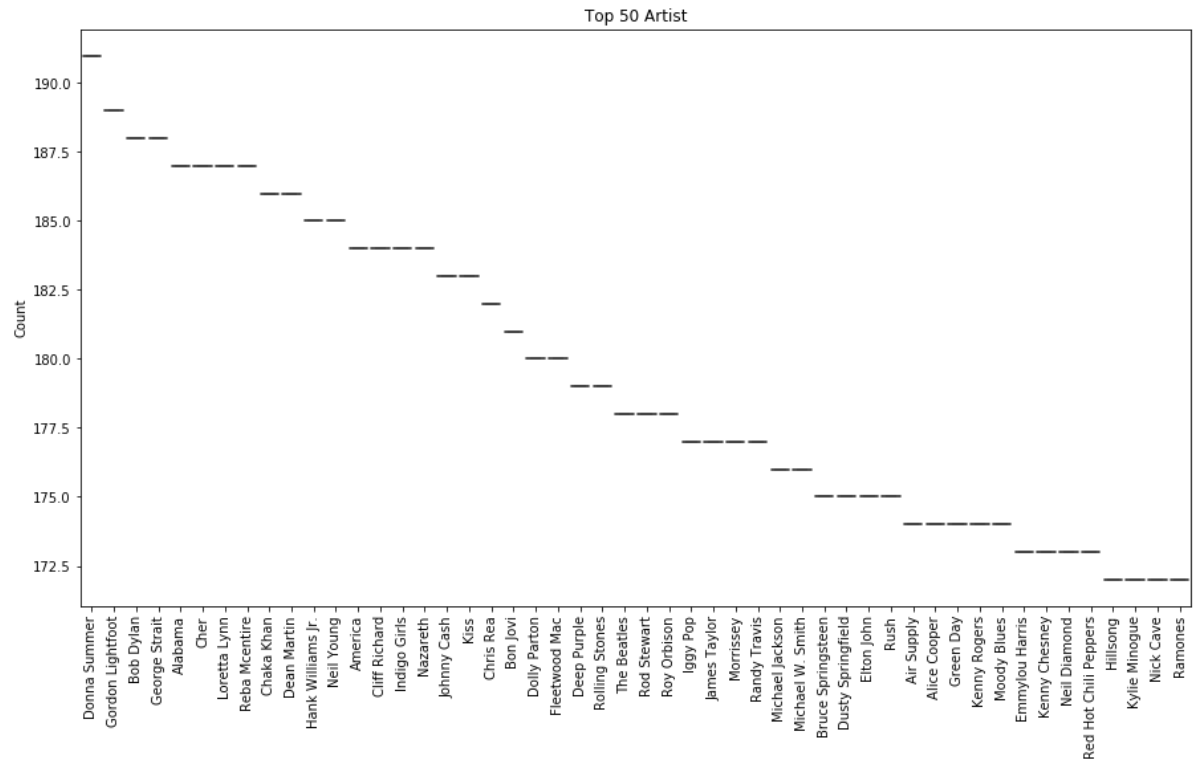
In [74]:
```python
df.groupby(['song']).count()
```

Out[74]:

song	artist	text
Human	1	1
(Aint That) Just Like Me	1	1
(Another Song) All Over Again	1	1
(Dear Mr. Gable) You Made Me Love You	1	1
(Dont Fear) The Reaper	1	1
(Everybody) Get Down	1	1
(Feels Like Im) Walking On Water	1	1
(Get Off Your) High Horse Lady	1	1
(Hey Wont You Play) Another Somebody Done Somebody Wrong Song	1	1
(I Cant Believe) She Gives It All To Me	1	1
(I Could Have Been Your) Best Old Friend	1	1
(I Dont Have) Anymore Love Songs	1	1
(I Heard That) Lonesome Whistle	1	1
(I Know) Im Losing You	1	1
(I Love You) For Sentimental Reasons	1	1
(I) Get Lost	1	1
(Id Be) A Legend In My Time	1	1
(Id Like To Get You On A) Slow Boat To China	1	1
(If It) Hurts Just A Little	1	1
(If Loving You Is Wrong) I Dont Want To Be Right	1	1
(If You Want It) Do It Yourself	1	1
(If Youre Wondering If I Want You To) I Want You To	1	1
(Ill Love You) Till The End Of The World	1	1
(Im A) Ramblin Man	1	1
(Im A) Road Runner	1	1
(Im Getting) Used To The Crying	1	1
(Im Gonna) Split This Room In Half	1	1
(Im My) Best Friend	1	1
(Im Praying For The Day) PEACE WILL COME	1	1
(In The) Pouring Rain	1	1
(It Mustve Been Ol) Santa Claus	1	1

	artist	text
song		
(Ive Got My) Future On Ice	1	1
(Keep Feeling) Fascination Improvisation	1	1
(Lets Have A) Party	1	1
(Love Always) Letter To Home	1	1
(Love Is Like A) Heat Wave	1	1
(Love Will) Turn Back The Hands Of Time	2	2
(Margies At) The Lincoln Park Inn	1	1
(No) Ill Never Get Over You	1	1
(Oh No) What You Got	1	1
(Remember The Days Of The) Old Schoolyard	1	1
(Someones Been) Telling You Stories	1	1
(The System Of) Doctor Tarr And Professor Fether	1	1
(The) Thin Wall	1	1
(Theme) Once Upon A Time	1	1
(Theme) Once Upon A Time (alternative)	1	1
(Up On) Cherry Blossom Hill	1	1
(We Were) Born To Rock	1	1
(Were Not) The Jet Set	1	1
(You Can) Depend On Me	1	1
(You To Be) Happy	1	1
(Youre Gonna) Hurt Yourself	1	1
(Youve Got) A Heart Of A Star	1	1
(all I Can Do Is) Dream You	1	1
(is This) Feeling For Real	1	1
(shes My) Solid Booze	1	1
(your Love Keeps Lifting Me) Higher And Higher	1	1
...And Justice For All	1	1
...And Through The Wire	1	1
...And Vandalism	1	1
...and In Every Home	1	1
...dust	1	1

	artist	text
song		
01.Tv Makes The Superstar	1	1
1 2 3	2	2
1 2 Crush On You	1	1
1 In Amillon	1	1
1 In The Morning	1	1
1 Sun	1	1
1.36	1	1
10 9 8	1	1
10 Bands	1	1
10 Bodies	1	1
10 Light Years Away	1	1
10 Million Stars	1	1
10 Minutes	1	1
10 Or A 2 Way	1	1
10 Seconds To Countdown	1	1
10 Seconds To Countdown 03:20	1	1
10 Years (Oprah Winfrey Show 10 Year Anniversary Theme)	1	1
10.000 Lightyears	1	1
10.000 Men	1	1
100 Bottles	1	1
100 I Dream	1	1
100 Nights	1	1
100 Tears Away	1	1
100 Times Fuckeder	1	1
100 Yard Dash	1	1
100 Years Ago	1	1
1000 Eyes	1	1
1000 Hands	1	1
1000 Hours	1	1
1000 Things	1	1
1000 Times Goodbye	1	1

	artist	text
song		
1000 Umbrellas	1	1
1000 X	1	1
1000 Years	1	1
10000 Days (Wings Pt. 2)	1	1
10000 Feet	1	1
10000 Promises	1	1
10000 Reasons	1	1
10000 Reasons (Bless The Lord)	1	1
100000 Years	1	1
1000000	1	1
1000000 Miles Away	1	1
10538 Overture	2	2
10w40	1	1
11 Oclock Tick Tock	1	1
11 Silver	1	1
11Am	1	1
12	1	1
12 Cents	1	1
12 Crazy Days Of Christmas	1	1
12 Days Of Christmas	1	1
12 Pains Of Christmas	1	1
12 Play	1	1
1234	1	1
12Th Of Never	1	1
13	1	1
13 Stitches	1	1
13 Years	1	1
13 Years Of Grief	1	1
1320	1	1
138	1	1
14 Carat Gold	1	1

	artist	text
song		
14 Cheerleader Cold Front	1	1
14 Hours	1	1
14 Years	1	1
1492	1	1
15	1	1
15 Days Tomorrow	1	1
15 Minutes	1	1
15 Petals	1	1
15 Step	1	1
157 Riverside Avenue	1	1
16 Candles	1	1
16 Fever	1	1
16 Tons	2	2
1692	1	1
16Days	1	1
17	1	1
17 Again	1	1
17 Days	1	1
18	1	1
18 Wheeler	1	1
180 Degrees	1	1
187	1	1
18th Avenue	1	1
1910	1	1
1917	1	1
1921	1	1
1949	1	1
1960	1	1
1963	1	1
1969	2	2
1970	1	1

song	artist	text
1970 Somethin	1	1
1975	1	1
1976	1	1
1977	1	1
1982	1	1
1983	1	1
1983...	1	1
1983... A Merman I Should Turn To Be	1	1
1984	1	1
1996	1	1
1999	2	2
19Th Nervous Breakdown	1	1
1Am	1	1
1St Key	1	1
1Stp Klosr	1	1
2 6 5 8 0	1	1
2 Am	1	1
2 Bad	1	1
2 Complicated	1	1
2 Days After Midnite	1	1
2 Hearts	2	2
2 Legit 2 Quit	1	1
2 Minutes To Midnight	1	1
2 N The Morning	1	1
2 Nigs United 4 West Compton	1	1
2 Of A Kind	1	1
2 Of Amerikaz Most Wanted	1	1
2 Pieces Of Drama	1	1
2 Wicky	1	1
2 X 2	1	1
2 Years On	1	1

song	artist	text
20 Dollar Nose Bleed	1	1
20 Eyes	1	1
20 Years From Now	1	1
20. Th Century	1	1
20.000 Lieues Sous Les Mers	1	1
2000 Blues	1	1
2000 Light Years Away	1	1
2000 Light Years From Home	1	1
2000 Man	2	2
2000 Miles	3	3
2000 Watts	1	1
2001	1	1
2012	1	1
2020	1	1
2045 Radical Man	1	1
20Th Century Blues	1	1
20Th Century Boy	1	1
20th Century Man	1	1
21 Guns	1	1
2112: Discovery	1	1
2112: III. Discovery	1	1
213	1	1
21St Century	1	1
21St Century Man	1	1
21St Century Schizoid Man	1	1
21St Century Sha La La La Girl	1	1
21st Century Breakdown	1	1
21st Century Christmas	1	1
21st Century Man	1	1
22	1	1
22 Acacia Avenue	1	1

	artist	text
song		
22 Januari	1	1
22 Years	1	1
22000 Days	1	1
23a Swan Hill	1	1
24	1	1
24 Hour Party People	1	1
24 Hours	1	1
24 Hours From Tulsa	1	1
24 On A 84	1	1
24K Magic	1	1
25	1	1
25 Miles	1	1
25 Minutes To Go	2	2
25 Oclock	1	1
25 Or 6 To 4	1	1
25 to Life	1	1
25Th Floor	1	1
27	2	2
29	1	1
2:10 Train	1	1
2Cv	1	1
2HB (Venus In Furs)	1	1
2Hb	1	1
2Nd Kelly	1	1
2X4	1	1
2nd Round	1	1
2nd Thought	1	1
3	1	1
3 A.M.	2	2
3 Chains O Gold	1	1
3 D	1	1

song	artist	text
3 Doors Down When Im Gone	1	1
3 Legs	1	1
3 Little Angles	1	1
3 Peat	1	1
3 Rings	1	1
3 Things	1	1
3 Verses	1	1
3 Wishes	1	1
30 Days	1	1
30 Days Out	1	1
30 Minutes To New Orleans	1	1
30 Pieces Of Silver	1	1
300 M.P.H. Torrential Outpour Blues	1	1
3000 Miles	1	1
305 To My City	1	1
3121	1	1
32 20 Blues	1	1
321	1	1
33rd Of August	2	2
34C	1	1
36 22 36	1	1
36D	1	1
38 Years Old	1	1
39	1	1
3Rd Coast	1	1
3Rd Of June	1	1
3Rd Stone From The Sun	1	1
3rd Eye	1	1
3rd Movement	1	1
4 Broken Hearts	1	1
4 Carats	1	1

song	artist	text
4 Minus 3 Equals Zero	1	1
4 Minute Warning	1	1
4 Real	1	1
4 Real 4 Real (Feat. Da Brat)	1	1
4 Seasons	1	1
4 The Tears In Your Eyes	1	1
4 Way Street Medley	1	1
4 White Stallions	1	1
4 X 4	1	1
4 Years Old	1	1
40	1	1
40 Days	1	1
40 Days And 40 Nights	1	1
40 Hour Week	1	1
40 Oz To Freedom	1	1
40 Years	1	1
400 Lux	1	1
409	1	1
409 In Your Coffeemaker	1	1
42	1	1
44 Minutes	1	1
45	1	1
45Th Floor	1	1
48 Hour Parole	1	1
48 Hours	1	1
4Am	1	1
4Th Of July	1	1
4Th Time Around	1	1
4th Of July	2	2
5 4 3 2 1 (Countdown)	1	1
5 Little Turkeys	1	1

	artist	text
song		
5 Minutes Away	1	1
5 Reasons	1	1
5 Women	1	1
5 Year Winter	1	1
5. 8. 6.	1	1
5.15 The Angels Have Gone	1	1
50 Ways To Eat Your Lover	1	1
50 Ways To Get Bin Laden	1	1
50 Ways To Leave Your Lover	1	1
50 Ways To Say Goodbye	1	1
500 Miles	3	3
50000 Miles Beneath My Brain	1	1
50000 Names	1	1
502	1	1
504	1	1
5150	1	1
51St Anniversary	1	1
52 50	1	1
52 Girls	1	1
53rd And 3rd	1	1
5446	1	1
57 Channels	1	1
59 Cadillac 57 Chevrolet	1	1
59 Crunch	1	1
5: 15	1	1
5Ive Gears In Reverse	1	1
5Th Avenue	1	1
6 God	1	1
6 Man	1	1
6 Minutes Of Pleasure	1	1
6 Oclock	1	1

song	artist	text
6 To 14 In 12	1	1
60 Miles An Hour	1	1
634 5789	3	3
69	2	2
6:00	1	1
7	1	1
7 (Album Version)	1	1
7 11	1	1
7 11 (Seven Eleven)	1	1
7 And 7 Is	1	1
7 Days	1	1
7 Days Over You	1	1
7 Days To The Wolves	1	1
7 Deadly Sins	1	1
7 Foot Man	1	1
7 Gates Of Hell	1	1
7 Minutes In Heaven	1	1
7 Nation Army	1	1
7 Rooms Of Gloom	1	1
7 Things	1	1
7 Years	1	1
700 Ft. Ceiling	1	1
72 Hookers	1	1
727 East Magnolia Avenue	1	1
7Twenty7	1	1
8 Ball	1	1
8 Mile Freestyle Pt.Ii	1	1
8 Mile Freestyle Pt.Iii Vs	1	1
80	1	1
80 Days	1	1
80 Proof Bottle Of Tear Stopper	1	1

	artist	text
song		
80 Times	1	1
80s	1	1
85	1	1
853 5937	1	1
855 6019	1	1
86	1	1
87 And Cry	1	1
88 Degrees	1	1
88 Seconds In Greensboro	1	1
89 Vision	1	1
8Th Avenue Shuffle	1	1
9	1	1
9 AM In Dallas	1	1
9 Times A Day	1	1
9 To 5	2	2
9. 5. N.A.S.T.Y.	1	1
90 Degrees And Freezing	1	1
905	1	1
90s Blues	1	1
911	2	2
93 Million Miles	1	1
977	1	1
99	1	1
99 Days	1	1
99 In The Shade	1	1
99 Pounds	1	1
99 Red Balloons	1	1
99 Ways To Die	1	1
A EEE	1	1
A 1000 Hugs And Kisses	1	1
A 4Th World	1	1

	artist	text
song		
A Apolitical Blues	1	1
A Babe Lies In The Cradle	1	1
A Baby Changes Everything	1	1
A Baby Just Like You	3	3
A Backstage Pass	1	1
A Bad Day	1	1
A Bad Night	1	1
A Bad Note	1	1
A Bad Penny	1	1
A Beautiful Friendship	1	1
A Beautiful Home	1	1
A Beautiful Life	2	2
A Beautiful Mess	1	1
A Beautiful Story	1	1
A Beautiful Thing	1	1
A Bed For Baby Jesus	1	1
A Bed Of Roses	1	1
A Bedtime Story	1	1
A Bell Will Ring	1	1
A Better Future	1	1
A Better Life	2	2
A Better Place To Live	1	1
A Better Rain	1	1
A Big Fan Of The Pigpen	1	1
A Big Hunk O Love	1	1
A Bird That Whistles	1	1
A Birds Song	1	1
A Blessing And A Curse	1	1
A Boat Like Gideon Brown	1	1
A Boy Is Born In Bethlehem	1	1
A Boy Is Born In Bethlehem Christmas	1	1

song	artist	text
A Boy Like Me A Girl Like You	1	1
A Boy Named Sue	1	1
A Boys Best Friend	1	1
A Brand New Day	2	2
A Brand New Song	1	1
A Breath Taking Guy	1	1
A Bridge That Just Wont Burn	1	1
A Brighter Dawn Is Breaking	1	1
A Broken Spell	1	1
A Bullet For Ramona	1	1
A Bunch Of Adventures	1	1
A Bushel And A Peck	2	2
A Call To Awake	1	1
A Call To Harvest	1	1
A Call To Prayer	1	1
A Candle In The Window	1	1
A Case Of U	1	1
A Case Of You	2	2
A Castle Full Of Rascals	1	1
A Casual Look	1	1
A Cat With A Tale	1	1
A Celebration	1	1
A Certain Shade Of Green	1	1
A Certain Someone	1	1
A Chair In The Sky	1	1
A Chance	1	1
A Chance To Be A Hero	1	1
A Change Is Gonna Come	3	3
A Change Of Seasons Ii: Innocence	1	1
A Change Would Do You Good	1	1
A Charge To Keep I Have	1	1

	artist	text
song		
A Child In These Hills	1	1
A Child Is Born	2	2
A Child Is Born In Bethlehem	1	1
A Child Of God	1	1
A Child With The Ghost	1	1
A Chocolate Sundae On A Saturday Night	1	1
A Christmas Camel	1	1
A Christmas Carol	2	2
A Christmas Letter	1	1
A Christmas Love Song	1	1
A Christmas To Remember	3	3
A Church Is Burning	1	1
A Clean Break	1	1
A Cold Day In December	1	1
A Collection	1	1
A Coral Room	1	1
A Corpse Without Soul	1	1
A Cottage For Sale	2	2
A Country Girl In Paris	1	1
A Couple Of Swells	1	1
A Cowboy Like You	1	1
A Cowboys Ways	1	1
A Cradle In Bethlehem	2	2
A Crazy World Like This	1	1
A Criminal Mind	1	1
A Crow Left Of The Murder	1	1
A Cry In The Forest	1	1
A Cry In The Night	1	1
A Cup Of Cofee	1	1
A Daisy A Day	1	1
A Dangerous Meeting	1	1

song	artist	text
A Dangerous Mind	1	1
A Day	1	1
A Day A Day Of Glory	1	1
...	...	...
You Get Used To Somebody	1	1
You Gets No Love (Remix)	1	1
You Give Good Love	1	1
You Give Me All I Need	1	1
You Give Me Love	1	1
You Give Me Loving	1	1
You Go To My Head	4	4
You Gonna Fly	1	1
You Got Gold	1	1
You Got It	3	3
You Got Me	2	2
You Got Me Floatin	1	1
You Got Me Runnin	1	1
You Got No Right	1	1
You Got That Right	1	1
You Got The Wrong Man	1	1
You Got To Be Ready For Love (If You Wanna Be Mine)	1	1
You Got To Know How	1	1
You Got Your Baby Back	1	1
You Got Yours	1	1
You Gotta Be	1	1
You Gotta Be Crazy	1	1
You Gotta Go	1	1
You Gotta Lotta That	1	1
You Gotta Make Your Own Sunshine	1	1
You Had Me From Hello	1	1
You Had To Be There	1	1

	artist	text
song		
You Hate (Du Hast English Edition)	1	1
You Have	1	1
You Have Been Loved	2	2
You Have Done Great Things	1	1
You Have Killed Me	1	1
You Have Lived	1	1
You Have Loved Enough	1	1
You Have Placed A Chill In My Heart	1	1
You Have To Learn To Live Alone	1	1
You Hold My World	2	2
You Hurt Me	1	1
You Inspire Me	1	1
You Just Cant Smile It Away	1	1
You Just Cant Stop It	1	1
You Just Dont Care	1	1
You Just Get Better All The Time	1	1
You Just Gotta Love Christmas	1	1
You Just Havent Earned It Yet Baby	1	1
You Just May Be The One	1	1
You Keep Coming Back Like A Song	1	1
You Keep It All In	1	1
You Keep Me Hanginon	1	1
You Keep On Moving	1	1
You Know How I Feel	1	1
You Know How We Do It	1	1
You Know I Love You... Dont You?	1	1
You Know Im Not Crazy	1	1
You Know Its You	1	1
You Know That I Love You	1	1
You Know That I Want To	1	1
You Know What I Mean	1	1

	artist	text
song		
You Know What You Are	1	1
You Know Where You Went Wrong	1	1
You Know Who I Am	1	1
You Know Who You Are	1	1
You Know Youre Right	1	1
You Leave Me Breathless With Your Words	1	1
You Left The Water Running	1	1
You Let A Lotta People Down	1	1
You Lie Down With Dogs	1	1
You Lied	1	1
You Light Up My Life	2	2
You Look Good In My Shirt	1	1
You Look So Good To Me	1	1
You Lookin At Me Lookin At You	1	1
You Love Me	1	1
You Love Me To Death	1	1
You Love The Thunder	1	1
You Love The World	1	1
You Made A Man Out Of Me	1	1
You Made Life Good Again	1	1
You Made Me Find Myself	1	1
You Made Me Love You	2	2
You Made Me Love You (Dear Mr. Gable)	1	1
You Make Loving Fun	1	1
You Make Me Crazy	1	1
You Make Me Feel	1	1
You Make Me Feel Like Dancing	1	1
You Make Me Feel Loved	1	1
You Make Me Feel So Young	1	1
You Make My Pants Want To Get Up And Dance	1	1
You May Be Right	1	1

song	artist	text
You Mean Im Not?	1	1
You Mean More To Me	1	1
You Might As Well Smile	1	1
You Might Need A Man	1	1
You Might Recall	1	1
You Miss Me	1	1
You Move Me	4	4
You Must Have Been A Beautiful Baby	1	1
You My Everything	1	1
You Nearly Did Me In	1	1
You Need A Man coming To You	1	1
You Need A Saviour	1	1
You Need Love	1	1
You Need Love Like I Do	1	1
You Never Called Me By My Name	1	1
You Never Can Tell	2	2
You Never Can Tell With Friends	1	1
You Never Change	1	1
You Never Even Call Me By My Name	1	1
You Never Know	1	1
You Never Let Go	1	1
You Never Listen To Me	1	1
You Never Satisfy Me	1	1
You Never Take Me Dancing	1	1
You Not Me	1	1
You Only Live Twice	1	1
You Only Tell Me You Love Me When Youre Drunk	1	1
You Opened My Eyes	1	1
You Owe It To Yourself	1	1
You Owe Me One	1	1
You Part The Waters	1	1

	artist	text
song		
You Picked A Real Bad Time	1	1
You Play Glockenspiel Ill Play Drums	1	1
You Put A Move On My Heart	1	1
You Put This Love In My Heart	1	1
You Raise Me Up	3	3
You Really Got Me	3	3
You Remind Me Of Gold	1	1
You Rescue Me	1	1
You Rock Me	1	1
You Run Your Mouth And Ill Run My Business	1	1
You Said It All	1	1
You Say	1	1
You Say Jump	1	1
You Say Yes	1	1
You Scare Me	1	1
You See Red	1	1
You Send Me	2	2
You Show Me Yours	1	1
You Stand Alone	1	1
You Started Laughing	1	1
You Stay With Me	1	1
You Stepped Into My Dreams	1	1
You Still Believe In Me	1	1
You Still Wont Know What Its Like	1	1
You Stopped Loving Me	1	1
You Surround Me	1	1
You Take Me Home	1	1
You Talk A Lot	1	1
You Talk Too Much	1	1
You Taught Me To...	1	1
You Think Youre A Man	1	1

	artist	text
song		
You Thought	1	1
You Thought Wrong	1	1
You Told Me	1	1
You Told Me Baby	1	1
You Took Him Off My Hands	1	1
You Took My Breath Away	1	1
You Took The Words Right Out Of My Mouth	1	1
You Took The Words Right Out Of My Mouth (Hot Summer Night)	1	1
You Touch My Heart	1	1
You Turn Me On	2	2
You Turn The Screws	1	1
You Two	1	1
You Want It Darker	1	1
You Were In My Heart	1	1
You Were Loved	1	1
You Were Meant For Me	1	1
You Were Only Fooling	1	1
You Were Right Girl	1	1
You Were The Fool	1	1
You Were The Star	1	1
You Were There	1	1
You Were Wrong	1	1
You Will Be A Hot Dancer	1	1
You Will Be Mine	1	1
You Will Never Be No Good	1	1
You Will Never Know	1	1
You Will Never Walk Alone	1	1
You Win I Lose	1	1
You Win Again	2	2
You Win I Lose	1	1
You Win I Win We Lose	1	1

song	artist	text
You Won	1	1
You Wont Be An Orphan For Long	1	1
You Wont Be Satisfied Until You Break My Heart	1	1
You Wont Be There	1	1
You Wont Change Me	1	1
You Wont See Me	1	1
You Wont See Me Cry	1	1
You Would Be My Baby	1	1
You Would Know	1	1
You Wrote The Book On Love	1	1
You n Me	1	1
You wont feel a thing	1	1
You!	1	1
Youll Accompany Me	1	1
Youll Always Be Loved	1	1
Youll Always Find Your Way Back Home	1	1
Youll Always Have Someone	1	1
Youll Always Live Inside Of Me	1	1
Youll Be Fine	1	1
Youll Be In My Heart	2	2
Youll Get It In The Mail Today	1	1
Youll Lose A Precious Love	1	1
Youll Never Be Alone	1	1
Youll Never Be So Wrong	1	1
Youll Never Find Another Love Like Mine	1	1
Youll Never Know	3	3
Youll Never See Me Again	1	1
Youll Never Stand Alone	1	1
Youll Never Walk Alone	6	6
Youll Rock	1	1
Youll Think Of Me	1	1

	artist	text
song		
Young	2	2
Young And Aspiring	1	1
Young And Beautiful	1	1
Young And Lovely	1	1
Young And Proud	1	1
Young At Heart	1	1
Young Birds Fly	1	1
Young Blood	3	3
Young Dallas Cowboy	1	1
Young Free And Single	1	1
Young Genocides	1	1
Young Girl	1	1
Young Girls	1	1
Young Girls Heart	1	1
Young Guns	2	2
Young Heroes	1	1
Young Love	2	2
Young Lover	1	1
Young Lust	1	1
Young Man	1	1
Young Mans Town	1	1
Young Ned Of The Hill	1	1
Young Offender	2	2
Young Volcanoes	1	1
Young Without Lovers	1	1
Younger Girls	1	1
Your	1	1
Your Arizona Room	1	1
Your Auntie Grizelda	1	1
Your Baby Doesnt Love You Anymore	1	1
Your Biggest Mistake	1	1

song	artist	text
Your Cheatin Heart	6	6
Your Childhood	1	1
Your Decision	1	1
Your Every Color	1	1
Your Everything	1	1
Your Eyes	1	1
Your Eyes Were Open	1	1
Your Failure Is My Revenge	1	1
Your Father And I	1	1
Your Favorite Entertainer	1	1
Your Feeling Is Mine	1	1
Your Flag Decal Wont Get You Into Heaven Anymore	1	1
Your Glory	1	1
Your Gold Teeth	1	1
Your Gold Teeth Ii	1	1
Your Good Thing (Is About To End)	1	1
Your Great Name	1	1
Your Heart Will Lead You Home	1	1
Your Illusion	1	1
Your Kinda Love	1	1
Your Kisses Are Charity	1	1
Your Last Song	1	1
Your Latest Trick	1	1
Your Life Is Now	1	1
Your Light	1	1
Your Lonely Heart	1	1
Your Long Journey	1	1
Your Love	2	2
Your Love (L.o.v.e. Reggae Mix)	1	1
Your Love Broke Through	1	1
Your Love Is Forever	1	1

	artist	text
song		
Your Love Still Brings Me To My Knees	1	1
Your Majesty	1	1
Your Mama Dont Dance	2	2
Your Minds Open	1	1
Your Move	1	1
Your Name	1	1
Your Name (Has Slipped My Mind Again)	1	1
Your One And Only Man	1	1
Your Own Choice	1	1
Your Own Special Way	1	1
Your Party	1	1
Your Place Or Mine?	1	1
Your Possible Pasts	1	1
Your Precious Love	1	1
Your Pretty Face Is Going To Hell	1	1
Your Saving Grace	1	1
Your Secret Love	1	1
Your Silent Face	1	1
Your Song	5	5
Your Southern Can Is Mine	1	1
Your Star	1	1
Your Star Will Shine	1	1
Your Sweet 666	1	1
Your The Only One	1	1
Your Wildest Dreams	1	1
Your Wonderful Love	1	1
Your World	1	1
Youre A Big Girl Now	1	1
Youre A Concrete Boy Now	1	1
Youre A Friend Of Mine	1	1
Youre A God	1	1

	artist	text
song		
Youre A Grand Old Flag	1	1
Youre A Whole Different Person When Youre Scared	1	1
Youre A Woman	1	1
Youre All Gonna Die	1	1
Youre All I Am	1	1
Youre All I Need	3	3
Youre All I Need To Get By	1	1
Youre All I Wanna Do	1	1
Youre All Talk	1	1
Youre Alright	1	1
Youre Always Pulling Me Down	1	1
Youre An Ocean	1	1
Youre Crashing But Youre No Wave	1	1
Youre Crazy	1	1
Youre Dead	1	1
Youre Easy To Dance With	1	1
Youre Enough	1	1
Youre Ever So Inviting	1	1
Youre Everything	1	1
Youre Everything To Me	1	1
Youre Everything To Me (2002)	1	1
Youre Everywhere	1	1
Youre Far Away From Me	1	1
Youre Going Down	1	1
Youre Gone	1	1
Youre Gonna Break My Heart Again	1	1
Youre Gonna Change	1	1
Youre Gonna Get Whats Coming	1	1
Youre Gonna Get Your Fingers Burned	1	1
Youre Gonna Go Far Kid	1	1
Youre Gonna Love Me	1	1

	artist	text
song		
Youre Gonna Love Yourself (In The Morning)	1	1
Youre Gonna Make Me Lonesome	1	1
Youre Holy Lord	1	1
Youre In Love	1	1
Youre In My Heart	1	1
Youre Just A Country Boy	1	1
Youre Kind	1	1
Youre Knockinme Out	1	1
Youre Laughing At Me	1	1
Youre Losing Me	1	1
Youre Lost (forever)	1	1
Youre Lost Little Girl	1	1
Youre Lovin Me To Death	1	1
Youre Made That Way	1	1
Youre Mighty	1	1
Youre My Better Half	1	1
Youre My Everything	1	1
Youre My Favorite Song	1	1
Youre My Flame	1	1
Youre My Flavor	1	1
Youre My Heart Youre My Soul	1	1
Youre My Home	1	1
Youre My Only Shawty	1	1
Youre My World	2	2
Youre Never Fully Dressed Without A Smile	1	1
Youre No Different	1	1
Youre No Good	2	2
Youre No Good For Me	1	1
Youre Nobody (Til Somebody Kills You)	1	1
Youre Nobody Till Somebody Loves You	1	1
Youre Not Alone Tonight	1	1

	artist	text
song		
Youre Not An Army	1	1
Youre Not Free	1	1
Youre Not Lisa	1	1
Youre Not My God	1	1
Youre On Your Own	2	2
Youre Only Human (Second Wind)	1	1
Youre Only In Love	1	1
Youre Only Jealous	1	1
Youre Only Losing Your Heart	1	1
Youre Ready Now	1	1
Youre Right I Was Wrong	1	1
Youre So Beautiful	2	2
Youre So Fine	4	4
Youre So Good To Me	1	1
Youre So Great	1	1
Youre So Intricate	1	1
Youre So Rude	1	1
Youre Still Beautiful To Me	1	1
Youre Still Here	1	1
Youre Still My Baby	1	1
Youre Still My Man	1	1
Youre Still You	1	1
Youre Stronger Than Me	1	1
Youre The Buddha	1	1
Youre The First The Last My Everything	1	1
Youre The Inspiration	1	1
Youre The Lady Of My Heart	1	1
Youre The One	6	6
Youre The One That I Want	2	2
Youre The Only Place	1	1
Youre The Reason	1	1

	artist	text
song		
Youre The Sweetest One	1	1
Youre The Top	1	1
Youre The Voice	1	1
Youre Young And Youll Forget	1	1
Yours	2	2
Yours For Life	1	1
Yours Forever	1	1
Yours Is An Empty Hope	1	1
Yours Is No Disgrace	1	1
Yours Is The Light	1	1
Yours Truly 2095	1	1
Yours Until Tomorrow	1	1
Yourself	1	1
Youth Of Today	1	1
Youthanasia	1	1
Youve Been A Friend	1	1
Youve Been In Love	1	1
Youve Changed	2	2
Youve Chosen Me	1	1
Youve Done Nothing	1	1
Youve Forgotten	1	1
Youve Got A Friend	2	2
Youve Got A Friend In Me	1	1
Youve Got A Problem	1	1
Youve Got Another Thing Coming	1	1
Youve Got Everything Now	1	1
Youve Got Her In Your Pocket	1	1
Youve Got It Bad	1	1
Youve Got Me Floating	1	1
Youve Got Me Hummin	1	1
Youve Got Possibilities	1	1

	artist	text
song		
Youve Got The Mother Load	1	1
Youve Got To Earn It	1	1
Youve Got To Hide Your Love Away	2	2
Youve Got To Love Her With A Feeling	1	1
Youve Got To Pick A Pocket Or Two	1	1
Youve Lost That Lovin Feelin	1	1
Youve Really Got A Hold On Me	1	1
Youve Ruined Me	2	2
Youve Still Got A Place In My Heart	1	1
Youve Taken Over Me	1	1
Yukon Railroad	1	1
Yule Shoot Your Eye Out	1	1
Z Ro	1	1
Zanzibar	1	1
Zapatas Blood	1	1
Zee Deveel	1	1
Zeitgeist	1	1
Zen Machine	1	1
Zero	1	1
Zero As A Limit	1	1
Zero Chance	1	1
Zero Landmine	1	1
Zero Sum	1	1
Zero The Hero	1	1
Zero Tolerance	1	1
Zig Zag Stories	1	1
Ziggy Stardust	1	1
Zilch	1	1
Zing Went The Strings Of My Heart	2	2
Zions Daughter	1	1
Zip A Dee Doo Dah	1	1

	artist	text
song		
Zittly Van Zittles	1	1
Zoloft	1	1
Zombie (Rehearsal 1984)	1	1
Zombie Autopilot	1	1
Zombie Eaters	1	1
Zombie Jamboree (Back To Back)	1	1
Zombie Ritual	1	1
Zombie Stomp	1	1
Zoo	1	1
Zoom	1	1
Zoomin	1	1
Zor And Zam	1	1
a Bomb In Wardour Street	1	1
beautiful tonight	1	1
cello Song	1	1
chances	1	1
cigarettes and valentines	1	1
cos I Love That Rocknroll	1	1
cry	1	1
di Bale Na Lang	1	1
exit	1	1
fore Day Blues	1	1
got to move	1	1
hang on in there	1	1
i hate boys	1	1
jah guide	1	1
love only knows	1	1
one in a million	1	1
sky	1	1
straight to you	1	1
swags mean	1	1

	artist	text
song		
til A Tear Becomes A Rose	1	1
til My Baby Comes Home	1	1
til My Heart Beats Down Your Door	1	1
til The Best Comes Along	1	1
til You Come Back To Me	1	1
til You Let Your Heart Win	1	1
twas Tea Time At The Circus	1	1

44650 rows × 2 columns

```python
In [75]:  artist_count = Counter(df['song'].dropna()).most_common(50)
          artist_keys = [song[0] for song in artist_count]
          artist_val = [song[1] for song in artist_count]

          fig,ax = plt.subplots(figsize = (15,8))
          sns.barplot(x = artist_keys, y = artist_val)
          plt.title('Top 50 Songs')
          plt.ylabel('Count')
          ticks = plt.setp(ax.get_xticklabels(),rotation=90)
```
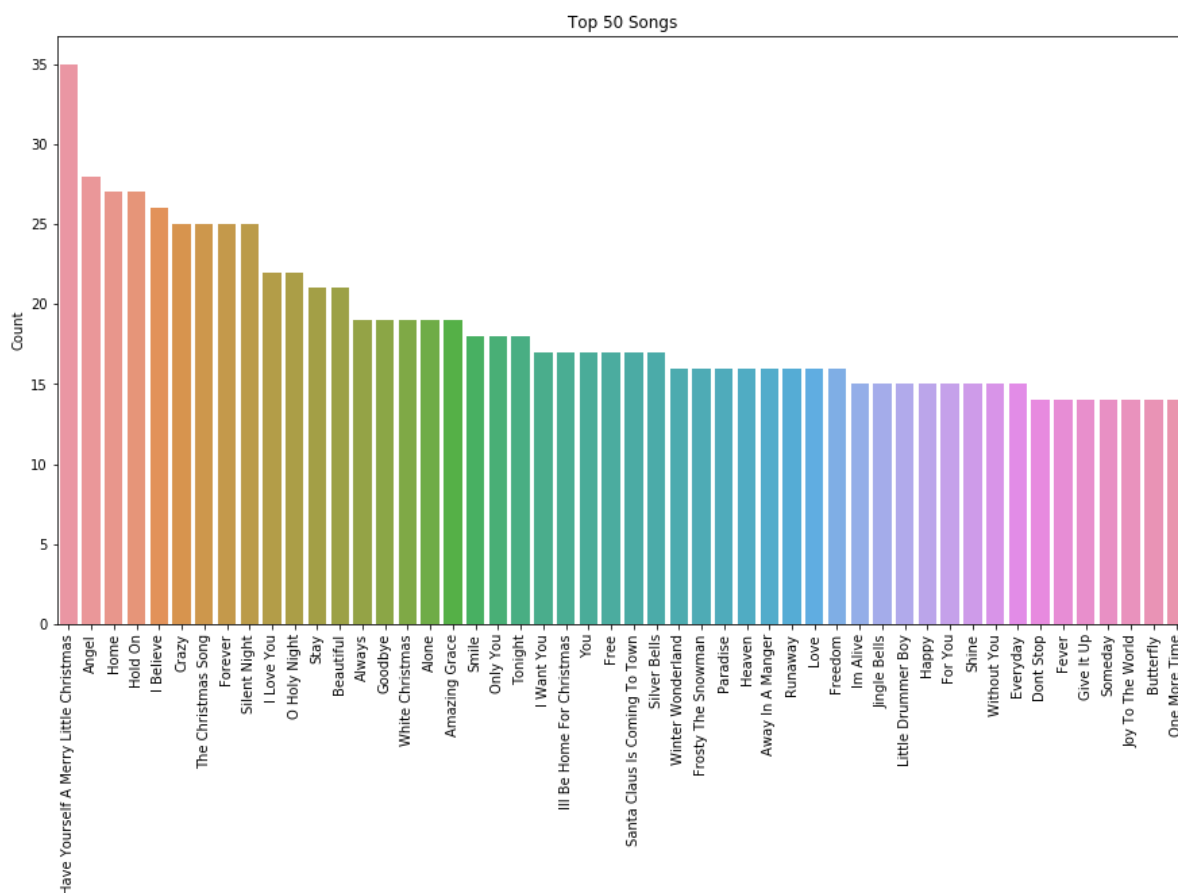
In [76]:
```python
artist_count = Counter(df['text'].dropna()).most_common(10)
artist_keys = [text[0] for text in artist_count]
artist_val = [text[1] for text in artist_count]

fig,ax = plt.subplots(figsize = (15,8))
sns.barplot(x = artist_keys, y = artist_val)
plt.title('Top 10 Text')
plt.ylabel('Count')
ticks = plt.setp(ax.get_xticklabels(),rotation=90)
```

Top 10 Text
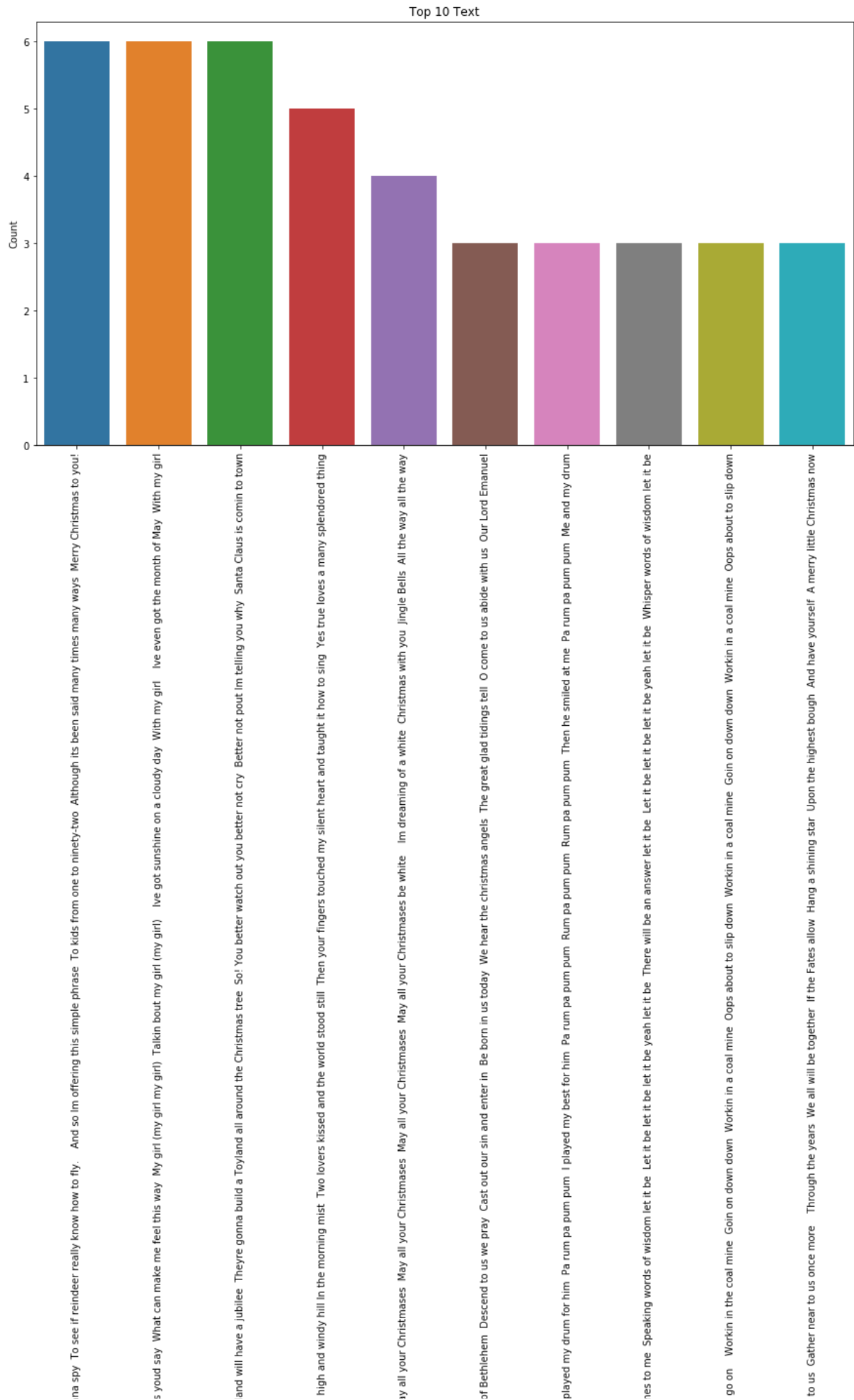
ed up like Eskimos. Everybody knows a turkey and some mistletoe Help to make the season bright Tiny tots with their eyes all aglow Will find it hard to sleep tonight. They know that Santas on his way Hes loaded lots of toys and goodies on his sleigh And every mothers child is gon

me Ive got a sweeter song than the birds in the trees I guess youd say What can make me feel this way My girl (my girl my girl) Talkin bout my girl (my girl) Hey hey hey Hey hey hey Ooh I dont need no money fortune or fame Ive got all the riches baby one man can claim I guess

s reindeers and his sleigh. So [Chorus] With little tin horns and little toy drums Rooty toot toots and rummy tum tums Santa Claus is comin to town And curly head dolls that toddle and coo Elephants boats and kiddie cars too Santa Claus is comin to town Then kids in Girl and Boy l

rs touched my silent heart and taught it how to sing Yes true loves a many splendored thing Love is a many splendored thing Its the April rose that only grows in the early Spring Love is natures way of giving a reason to be living The golden crown that makes a man king Once on a

Christmases be white Im dreaming of a white Christmas Just like the ones I used to know Where the tree tops glisten And children listen To hear sleigh bells in the snow Im dreaming of a white Christmas With every Christmas card I write May your days be merry and bright And ma

King And peace to men on Earth How silently how silently The wondrous gift is given So God imparts to human hearts The blessings of his heaven No ear may hear his coming But in this world of sin Where meek souls Will receive him still The dear Christ enters in Oh holy child

i pa pum pum I have no gift to bring Pa rum pa pum pum Thats fit To give a king Pa rum pa pum pum Rum pa pum pum Rum pa pum pum Shall I play for you Pa rum pa pum pum On my drum Yoi da adash Pa rum pa pum pum The ass And lamb kept time Pa rum pa pum pum

Let it be let it be let it be let it be Whisper words of wisdom let it be Let it be let it be let it be let it be Whisper words of wisdom let it be And when the night is cloudy there is still a light that shines on me Shine until tomorrow let it be I wake up to the sound of music Mother Mary com

in this go on Workin in the coal mine Goin on down down Workin in a coal mine Oops about to slip down Workin in a coal mine Goin on down down Workin in a coal mine Five oclock in the mornin Im already up and gone Lord Im so tired How long can this

le Christmas Let your heart be light From now on Our troubles Will be out of sight Have yourself A merry little Christmas Make the Yule-tide gay From now on Our troubles Will be miles away Here we are as in olden days Happy golden days of yore Faithful friends Who are dear

Chestnuts roasting on an open fire Jack Frost nipping at your nose Yule-tide carols being sung by a choir And folks dress

Ive got sunshine on a cloudy day When its cold outside Ive got the month of May I guess youd say What can make me feel this way My girl (my girl my girl) Talkin bout my girl (my girl) Ive got so much honey the bees envy I

watch out you better not cry Better not pout Im telling you why Santa Claus is comin to town Now Santa is a busy man He has no time to play Hes got millions of stockings to fill on Christmas day Youd better write your letter now And mail it right away Because hes getting ready Hi

is a many splendored thing Its the April rose that only grows in the early Spring Love is natures way of giving a reason to be living The golden crown that makes a man a king Once on a high and windy hill In the morning mist Two lovers kissed and the world stood still Then your finge

Im dreaming of a white Christmas Just like the ones I used to know Where the tree tops glisten And children listen To hear sleigh bells in the snow Im dreaming of a white Christmas With every Christmas card I write May your days be merry and bright And may all Your

The everlasting light The hopes and fears of all The years are met in thee tonight For Christ is born of Mary And gathered all above While mortals sleep The angels keep Their watch of wondering love Oh morning stars together Proclaim the Holy birth And praises sing To God the

newborn king to see Pa rum pa pum pum Our finest gifts we bring Pa rum pa pum pum To lay before the king Pa rum pa pum pum Rum pa pum pum Rum a pum pum Rum pa pum pum So to honor him Pa rum pa pum pum When we come Little baby Pa rum pa pum pum I am a poor boy too Pa rum

wisdom let it be And when the broken hearted people living in the world agree There will be an answer let it be For though they may be parted there is still a chance that they will see There will be an answer let it be Let it be let it be let it be let it be There will be an answer let it be

coal by the ton When Saturday rolls around Im too tired for havin fun Workin in the coal mine Goin on down down Workin in a coal mine Oops about to slip down Workin in a coal mine Goin on down down Workin in a coal mine Oops about to slip down Lord Im so tired How long ca

Have yourself A merry litt

Love

s and rummy tum tums Santa Claus is comin to town And curly head dolls that toddle and coo Elephants boats and kiddie cars too Santa Claus is comin to town Then kids in Girl and Boy land will have a jubilee Theyre gonna build a Toyland all around the Christmas tree So! You better

Oh little town of Bethlehem How still we see thee lie Above thy deep and dreamless Sleep the silent stars go by Yet in they dark streets shineth

Come they told me Pa rum pa pum pum A I

When I find myself in times of trouble Mother Mary comes to me Speaking words of wisdom let it be And in my hour of darkness she is standing right in front of me Speaking words of wisdom let it be Let it be let it be let it be let it be Whisper words of

lready up and gone Lord Im so tired How long can this go on Workin in the coal mine Goin on down down Workin in a coal mine Oops about to slip down Workin in a coal mine Goin on down down Workin in a coal mine Oops about to slip down Cause I make a little money Haulin c

when youre sleepin He knows when youre a wake He knows if youve been bad or good So be good for goodness sake Oh! You better watch out you better not cry Better not pout Im telling you why Santa Claus is comin to town With little tin horns and little toy drums Rooty toot toot!

Workin in the coal mine Goin on down down Workin in a coal mine Oops about to slip down Workin in a coal mine Oops about to slip down Workin in a coal mine Goin on down down Workin in a coal mine Goin on down down Workin in a coal mine Oops about to slip down Five oclock in the mornin Im a

...e to his workshop And told his plans to me so [Chorus] You better watch out you better not cry Better not pout Im telling you why Santa Claus is comin to town Hes making a list and checking it twice Gonna find out whos naughty and nice Santa Claus is comin to town He sees you

I just came back from a lovely trip along the Milky Way Stopped off at the North Pole to spend a holiday I called on dear old Santa Claus To see what I could see He took m

In [77]:
```python
from textblob import TextBlob
```

The sentiment polarity score works, we randomly select 5 reviews with the highest sentiment polarity score (1) Polarity in sentiment analysis refers to identifying sentiment orientation (positive, neutral, and negative) in written or spoken language.

In [78]:
```python
df['polarity_text'] = df['text'].map(lambda text: TextBlob(text).sentiment.polarity)
df['review_len_text'] = df['text'].astype(str).apply(len)
df['word_count_text'] = df['text'].apply(lambda x: len(str(x).split()))
```

In [79]:
```python
df['polarity_song'] = df['song'].map(lambda text: TextBlob(text).sentiment.polarity)
df['review_len_song'] = df['song'].astype(str).apply(len)
df['word_count_song'] = df['song'].apply(lambda x: len(str(x).split()))
```

In [80]:
```python
df['polarity_artist'] = df['artist'].map(lambda text: TextBlob(text).sentiment
.polarity)
df['review_len_artist'] = df['artist'].astype(str).apply(len)
df['word_count_artist'] = df['artist'].apply(lambda x: len(str(x).split()))
```

In [81]:
```python
df.head()
```

Out[81]:

	artist	song	text	polarity_text	review_len_text	word_count_text	polarity
0	ABBA	Ahes My Kind Of Girl	Look at her face its a wonderful face And it ...	0.447619	721	153	0.60000
1	ABBA	Andante Andante	Take it easy with me please Touch me gently I...	0.202222	1349	260	0.00000
2	ABBA	As Good As New	Ill never know why I had to go Why I had to p...	0.281812	1408	312	0.41818
3	ABBA	Bang	Making somebody happy is a question of give an...	0.314286	1185	200	0.00000
4	ABBA	Bang A Boomerang	Making somebody happy is a question of give an...	0.314286	1201	198	0.00000

In [125]: `df.describe()`

Out[125]:

	polarity_text	review_len_text	word_count_text	polarity_song	review_len_song
count	57650.000000	57650.000000	57650.000000	57650.000000	57650.000000
mean	0.094596	1113.679133	219.320746	0.038461	15.376357
std	0.179635	544.534287	108.686452	0.220228	7.188944
min	-1.000000	362.000000	37.000000	-1.000000	1.000000
25%	-0.016987	740.000000	145.000000	0.000000	10.000000
50%	0.089034	993.000000	195.000000	0.000000	14.000000
75%	0.206546	1336.000000	263.000000	0.000000	19.000000
max	1.000000	3879.000000	827.000000	1.000000	76.000000
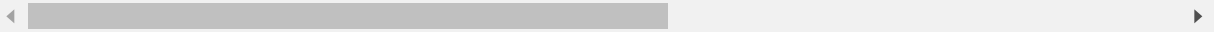
In [82]:
```
#Text data in songs
#All binary features
text_data=df.loc[:,'polarity_text':'word_count_text']
```

In [83]:
```python
for i, col in enumerate(text_data.columns):
    plt.figure(i)
    plt.hist(text_data[col])
```
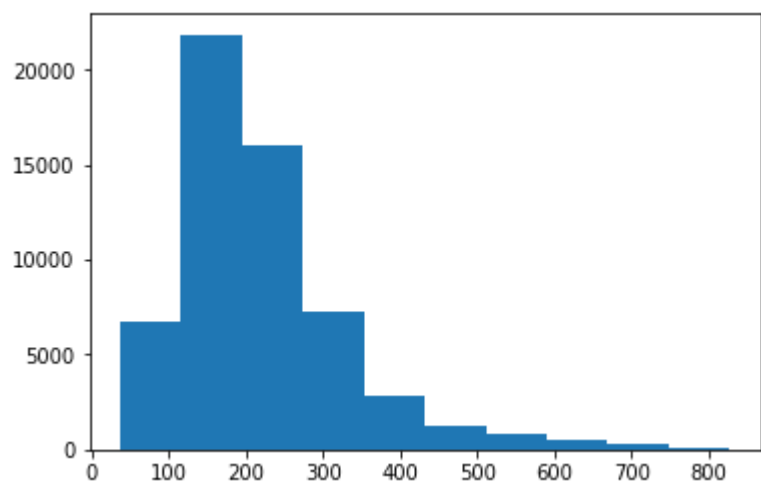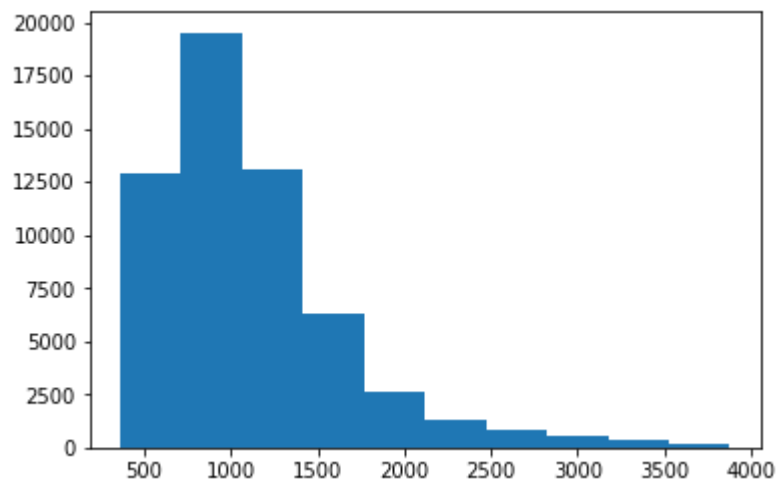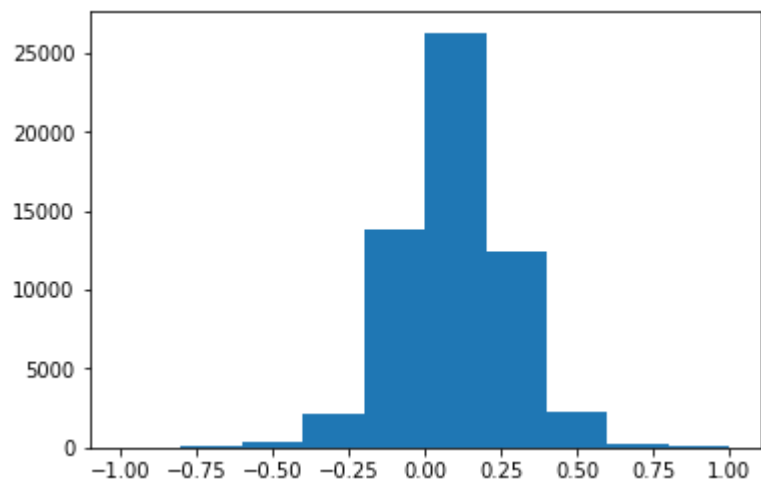

In [84]:
```python
#Artist data in songs
#All binary features
artist_data=df.loc[:,'polarity_artist':'word_count_artist']
```

```
In [85]:  for i, col in enumerate(artist_data.columns):
              plt.figure(i)
              plt.hist(artist_data[col])
```
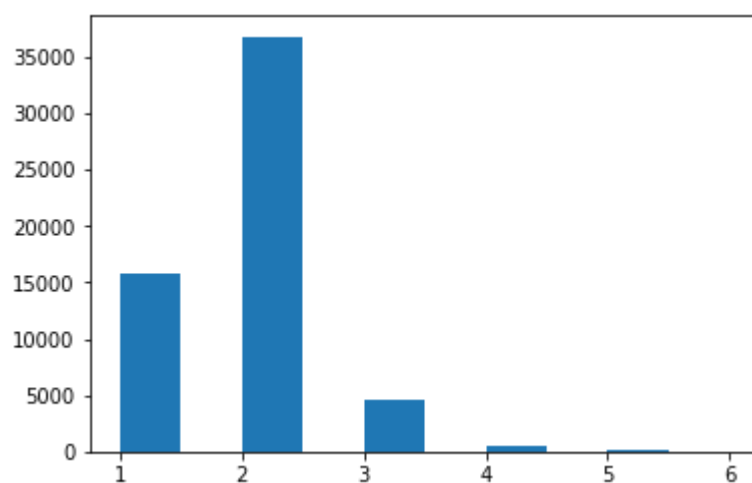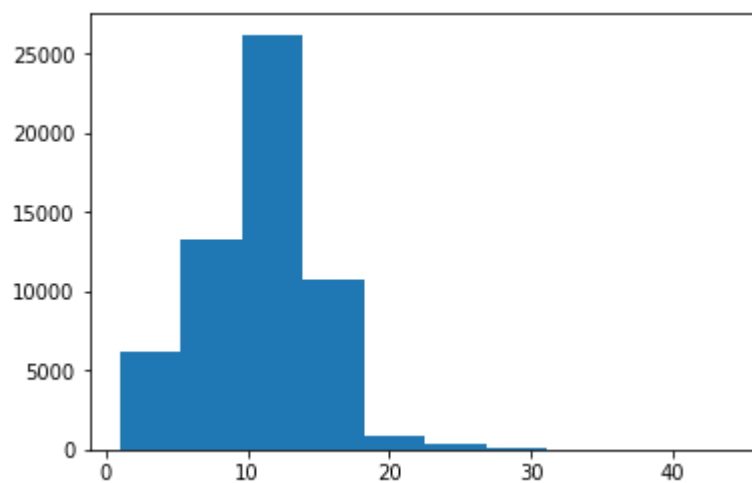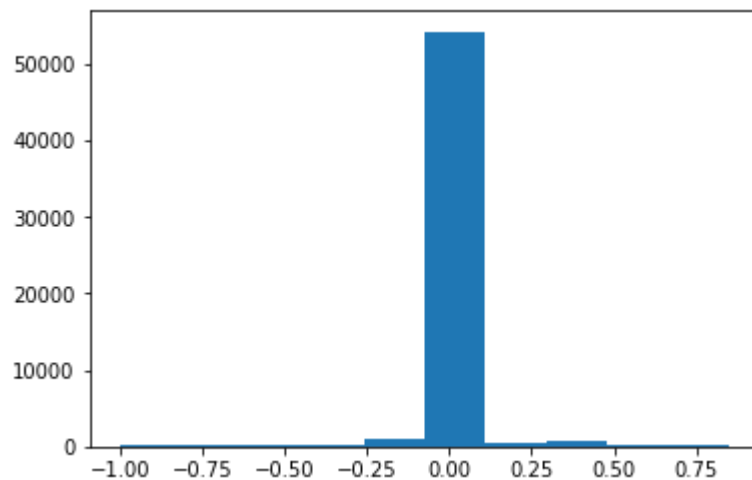


```
In [86]:  #Song data in songs
          #All binary features
          song_data=df.loc[:,'polarity_song':'word_count_song']
```

In [87]:
```python
for i, col in enumerate(song_data.columns):
    plt.figure(i)
    plt.hist(song_data[col])
```
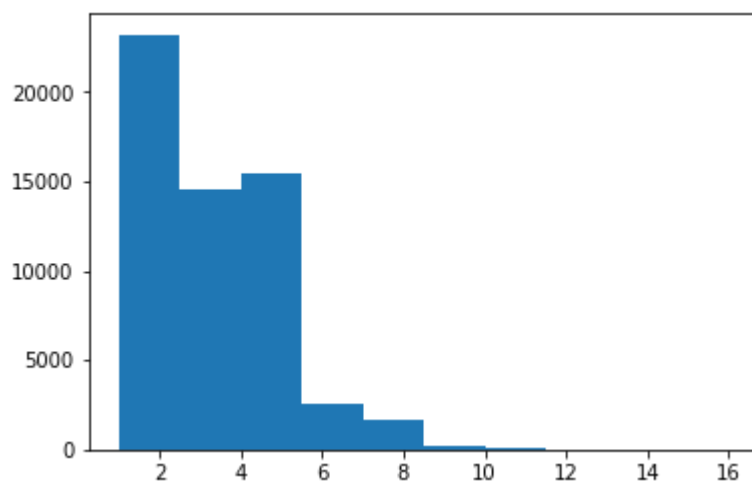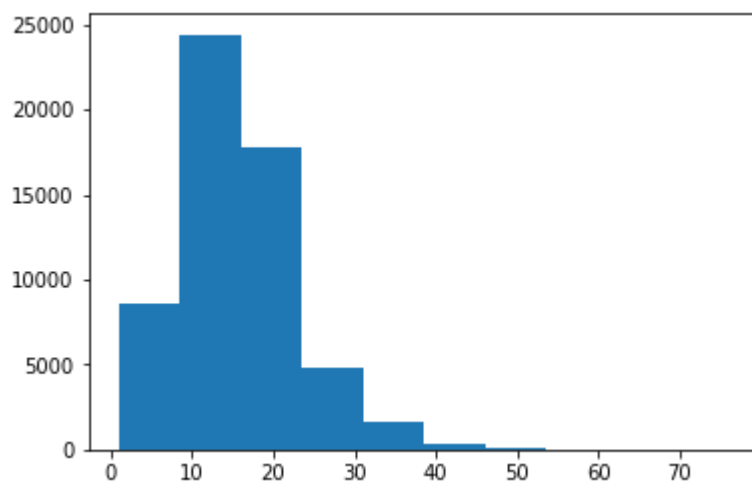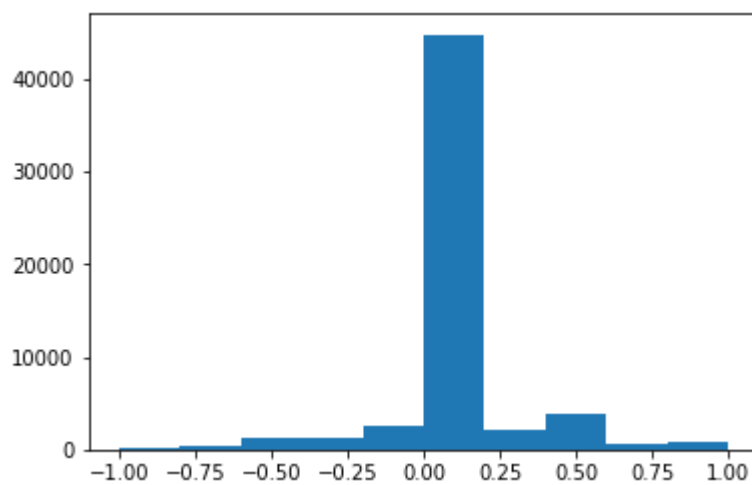
In [117]:
```
sns.boxplot(data=df,palette='rainbow',orient='h')
```

Out[117]: `<matplotlib.axes._subplots.AxesSubplot at 0x12c044647b8>`
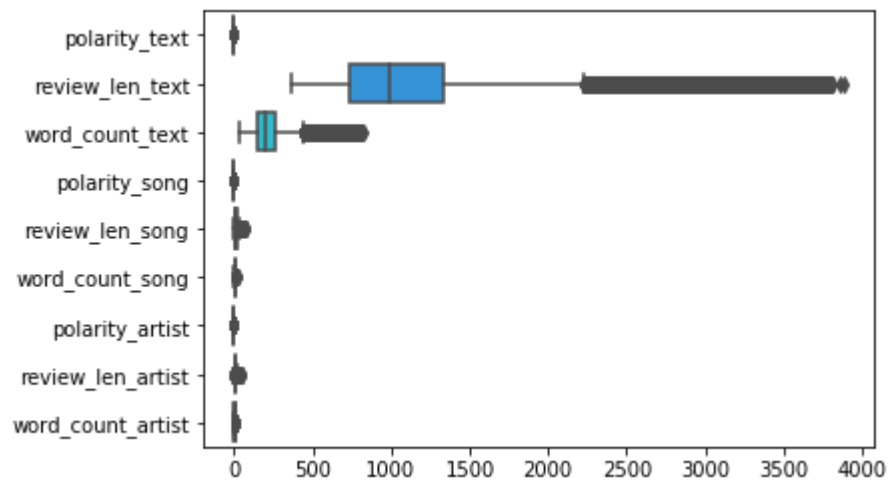
In [104]:
```python
print("Document Count")
print(df.groupby('artist')['text'].count())
print("Word Count")
df.groupby('artist').apply(lambda x: x.text.apply(lambda x: len(x.split())).sum())
```

```
Document Count
artist
'n Sync                        93
ABBA                          113
Ace Of Base                    74
Adam Sandler                   70
Adele                          54
Aerosmith                     171
Air Supply                    174
Aiza Seguerra                  25
Alabama                       187
Alan Parsons Project          102
Aled Jones                     23
Alice Cooper                  174
Alice In Chains                95
Alison Krauss                 145
Allman Brothers Band          116
Alphaville                    105
America                       184
Amy Grant                     147
Andrea Bocelli                 25
Andy Williams                 138
Annie                          32
Ariana Grande                  51
Ariel Rivera                   19
Arlo Guthrie                  113
Arrogant Worms                 89
Avril Lavigne                 143
Backstreet Boys               164
Barbie                         18
Barbra Streisand              157
Beach Boys                    151
Beautiful South               149
Beauty And The Beast           12
Bee Gees                      170
Bette Midler                  158
Bill Withers                   35
Billie Holiday                150
Billy Joel                    141
Bing Crosby                   157
Black Sabbath                 156
Blur                          136
Bob Dylan                     188
Bob Marley                     86
Bob Rivers                     48
Bob Seger                     158
Bon Jovi                      181
Boney M.                       98
Bonnie Raitt                  149
Bosson                         52
Bread                          75
Britney Spears                158
Bruce Springsteen             175
Bruno Mars                     70
Bryan White                    48
Cake                           73
Carly Simon                   168
```

```
Carol Banawa                        23
Carpenters                         112
Cat Stevens                        114
Celine Dion                        116
Chaka Khan                         186
Cheap Trick                        170
Cher                               187
Chicago                            160
Children                            90
Chris Brown                        145
Chris Rea                          182
Christina Aguilera                 146
Christina Perri                     36
Christmas Songs                    140
Christy Moore                       64
Chuck Berry                        127
Cinderella                          48
Clash                              118
Cliff Richard                      184
Coldplay                           120
Cole Porter                         17
Conway Twitty                      162
Counting Crows                     158
Creedence Clearwater Revival        43
Crowded House                       76
Culture Club                        76
Cyndi Lauper                       161
Dan Fogelberg                      108
Dave Matthews Band                 168
David Allan Coe                    162
David Bowie                        165
David Guetta                        63
David Pomeranz                      17
Dean Martin                        186
Death                               60
Deep Purple                        179
Def Leppard                        147
Demi Lovato                        105
Depeche Mode                       167
Devo                               125
Dewa 19                             21
Diana Ross                         167
Dire Straits                        61
Divine                              33
Dolly Parton                       180
Don Henley                          46
Don McLean                          67
Don Moen                            39
Donna Summer                       191
Doobie Brothers                    110
Doors                               97
Doris Day                           74
Drake                              117
Dream Theater                       97
Dusty Springfield                  175
Eagles                              41
Ed Sheeran                          53
```

```
Eddie Cochran                     128
Electric Light Orchestra          148
Ella Fitzgerald                   163
Ellie Goulding                     77
Elton John                        175
Elvis Costello                    146
Elvis Presley                     168
Eminem                             70
Emmylou Harris                    173
Engelbert Humperdinck             125
Enigma                             35
Enrique Iglesias                   79
Enya                               40
Eppu Normaali                       3
Erasure                           138
Eric Clapton                      152
Erik Santos                        40
Etta James                         94
Europe                             82
Eurythmics                        142
Evanescence                        77
Everclear                         123
Everlast                           78
Exo                                 3
Exo-K                               2
Extreme                            70
Fabolous                          115
Face To Face                       93
Faces                              37
Faith Hill                        109
Faith No More                      71
Falco                              18
Fall Out Boy                       97
Fastball                           59
Fatboy Slim                        40
Fifth Harmony                      17
Fiona Apple                        56
Fleetwood Mac                     180
Flo-Rida                           59
Foo Fighters                      142
Foreigner                          86
Frank Sinatra                     154
Frank Zappa                        99
Frankie Goes To Hollywood          28
Frankie Laine                      41
Frankie Valli                      48
Freddie Aguilar                    13
Freddie King                       30
Free                               39
Freestyle                          46
Fun.                               18
GMB                                13
Garth Brooks                       85
Gary Numan                        170
Gary Valenciano                    56
Genesis                           141
George Formby                      17
```

```
George Harrison              157
George Jones                 137
George Michael               122
George Strait                188
Gino Vannelli                 94
Gipsy Kings                    5
Glee                         164
Glen Campbell                159
Gloria Estefan               102
Gloria Gaynor                 49
Gordon Lightfoot             189
Grand Funk Railroad           89
Grateful Dead                165
Grease                        31
Great Big Sea                 93
Green Day                    174
Gucci Mane                    84
Guided By Voices              97
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King Crimson                                    6255
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Kinks                                          39437
Kirk Franklin                                  28402
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Migos                             7300
Miley Cyrus                      41651
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Modern Talking                   26080
Moody Blues                      33157
Morrissey                        30962
Mud                               5216
NOFX                             22334
Nat King Cole                    20545
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New Order                       20391
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Nick Cave                       38498
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Nicki Minaj                     33102
Nightwish                       13965
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Nirvana                         17032
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Noa                             16474
Norah Jones                     16600
Notorious B.I.G.                24039
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Oscar Hammerstein                4793
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Pitbull                                30029
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Quarterflash                            4177
Quasi                                   2806
Queen                                  37843
Queen Adreena                           5626
Queen Latifah                          16629
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Queensryche                            18330
Quicksand                               3076
Quicksilver Messenger Service           2626
Quiet Riot                             12328
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Rainbow                                14614
Rammstein                               6721
Ramones                                27635
Randy Travis                           33169
Rascal Flatts                          26516
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Ray Charles                            31788
Reba Mcentire                          34732
Red Hot Chili Peppers                  42302
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Richard Marx                           23918
Rick Astley                            12246
Rihanna                                50406
Robbie Williams                        40388
Rod Stewart                            42135
Rolling Stones                         37558
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Roxy Music                9614
Roy Orbison              26850
Rush                     31649
Sam Smith                 4673
Santana                  16530
Savage Garden             7643
Scorpions                32819
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Selena Gomez             13157
Sia                      17019
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Stevie Ray Vaughan        3912
Stevie Wonder            37789
Sting                    22312
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Stone Temple Pilots      10702
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Tears For Fears          12388
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The Beatles              30846
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The Jam                  15538
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The Script               12134
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The Weeknd               10124
The White Stripes        11019
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              Tragically Hip                     24207
              Train                              20719
              Travis                             15993
              Twenty One Pilots                   9555
              U-Kiss                               205
              U. D. O.                            2632
              U2                                 28112
              UB40                               28962
              Ufo                                18330
              Ugly Kid Joe                        6507
              Ultramagnetic Mc's                  6618
              Ultravox                            9451
              Uncle Kracker                      12808
              Uncle Tupelo                        6393
              Underoath                           8434
              Underworld                          9134
              Unearth                             5664
              Ungu                                 146
              Unkle                               5045
              Unknown                              730
              Unseen                              5346
              Unwritten Law                       8417
              Uriah Heep                         29843
              Used                               17353
              Usher                              46017
              Utada Hikaru                       13991
              Utopia                             17046
              Van Der Graaf Generator             1673
              Van Halen                          22627
              Van Morrison                       31379
              Vanessa Williams                   14785
              Vangelis                            2668
              Vanilla Ice                        15688
              Various Artists                      579
              Velvet Underground                  9015
              Vengaboys                           2588
              Venom                              14411
              Vera Lynn                           1770
              Vertical Horizon                   11639
              Veruca Salt                         8817
              Verve                               9873
              Vince Gill                         26902
              Violent Femmes                     14665
              Virgin Steele                      11265
              Vonda Shepard                      11990
              Vybz Kartel                        16558
              W.A.S.P.                           21697
              Walk The Moon                       2870
              Wanda Jackson                      21251
              Wang Chung                          6632
              Warren Zevon                       19259
              Waterboys                          13948
              Waylon Jennings                    24347
              Ween                               16790
              Weezer                             16581
```

```
Weird Al Yankovic              35384
Westlife                       31738
Wet Wet Wet                    13147
Wham!                           5285
Whiskeytown                     8707
Whitesnake                     25070
Whitney Houston                24430
Who                            36189
Widespread Panic               19439
Will Smith                     14533
Willie Nelson                  23358
Wilson Phillips                 7257
Wilson Pickett                  4324
Wishbone Ash                   14553
Within Temptation              16334
Wiz Khalifa                    19854
Wu-Tang Clan                   26436
Wyclef Jean                    19834
X                               3508
X Japan                         2400
X-Raided                        3388
X-Ray Spex                      2753
X-Treme                           96
XTC                            25901
Xandria                         4037
Xavier Naidoo                    749
Xavier Rudd                     7513
Xentrix                         1280
Xiu Xiu                         3419
Xscape                         10241
Xzibit                         26060
YG                              5834
Yazoo                           3554
Yeah Yeah Yeahs                 8797
Yelawolf                        7047
Yello                           9792
Yellowcard                     17229
Yeng Constantino                1496
Yes                            27842
Ying Yang Twins                17898
Yngwie Malmsteen               16008
Yo Gotti                       11187
Yo La Tengo                     6713
Yoko Ono                       14766
Yolanda Adams                  12275
Yonder Mountain String Band     1704
You Am I                       10679
Young Buck                     10071
Young Dro                       4172
Young Jeezy                    28227
Youngbloodz                    11278
Youth Of Today                  2645
Yukmouth                        4577
Yung Joc                        4806
Yusuf Islam                     2696
Z-Ro                           30755
ZZ Top                         19048
```

```
Zac Brown Band                              8222
Zakk Wylde                                  3283
Zao                                         3799
Zayn Malik                                  4363
Zazie                                        302
Zebra                                       4130
Zebrahead                                  24238
Zed                                          194
Zero 7                                      4079
Zeromancer                                  4300
Ziggy Marley                               16781
Zoe                                          134
Zoegirl                                     9773
Zornik                                      1924
Zox                                         5501
Zucchero                                    6133
Zwan                                        2946
dtype: int64
```

In [120]:
```python
import statsmodels.api as sm
import statsmodels.formula.api as smf

%matplotlib inline
plt.style.use('seaborn-white')
```

In [124]:
```python
g = sns.jointplot("word_count_text", "polarity_text", data=df,
                  marginal_kws=dict(bins=15, rug=True),
                  annot_kws=dict(stat="r"),
                  s=40, edgecolor="w", linewidth=1)
```
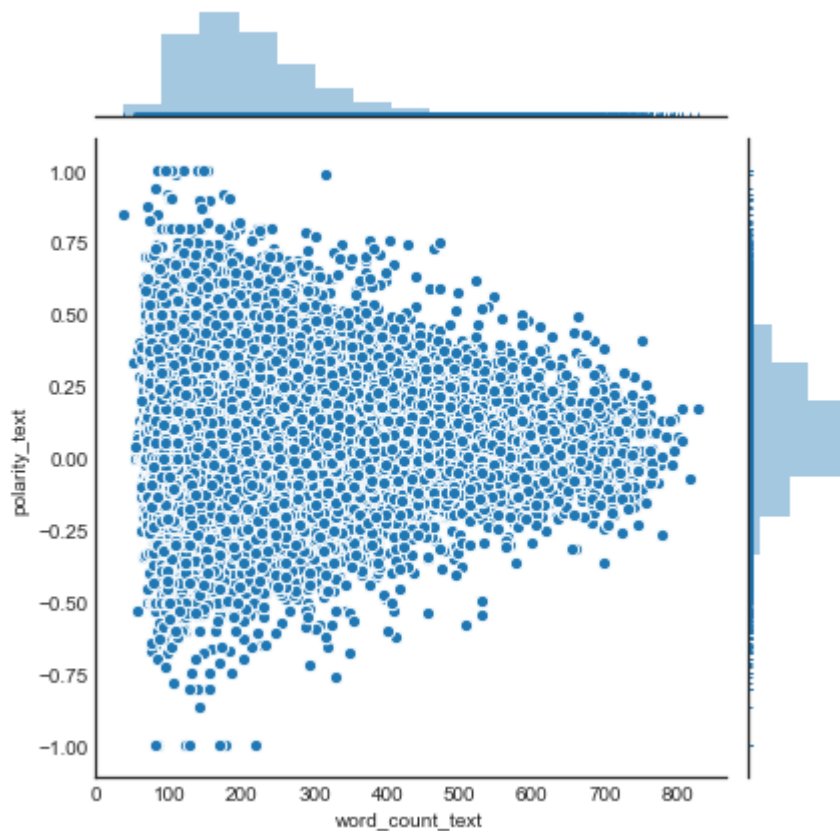
MODELS

1. Other methods – mean-shift, spectral, affinity
2. Neural network - Supervised & Unsupervised
3. NLP - Supervised & Unsupervised
4. word2vec

In [127]:
```python
# Remove newlines and other extra whitespace by splitting and rejoining.

# All done with cleanup? Let's see how it looks.
print('Extra whitespace removed:\n', df['text'][0:100])
```

```
Extra whitespace removed:
 0      Look at her face its a wonderful face  And it ...
 1      Take it easy with me please  Touch me gently l...
 2      Ill never know why I had to go  Why I had to p...
 3      Making somebody happy is a question of give an...
 4      Making somebody happy is a question of give an...
 5      Well you hoot and you holler and you make me m...
 6      Down in the street theyre all singing and shou...
 7      Chiquitita tell me whats wrong  Youre enchaine...
 8      I was out with the morning sun  Couldnt sleep ...
 9      Im waitin for you baby  Im sitting all alone  ...
10      Oh my love it makes me sad.  Why did things tu...
11      You can dance you can jive having the time of ...
12      Changing moving in a circle  I can see your fa...
13      Youre so hot teasing me  So youre blue but I c...
14      Agnetha Were not the stars of a Hollywood movi...
15      I can hear how you work practising hard  Playi...
16      They came flying from far away now Im under th...
17      Every good man needs a helping hand  so I trav...
18      Can you hear the drums Fernando  I remember lo...
19      Puedes escuchar Fernando  Me recuerda tiempo a...
20      Im down and I feel depressed  Sitting here jus...
21      Twinkle Twinkle little star  How I wonder what...
22      Half past twelve  And Im watching the late sho...
23      Theres a gentleness to everything you do  And ...
24      You say shes been mad at you  Then you say you...
25      When the autumn leaves are falling to the grou...
26      Agnetha Frida Early this morning I drove in th...
27      No more champagne  And the fireworks are throu...
28      Benny I was a fighter always looking for troub...
29      I have a very good friend  The kind of girl wh...
30      Love love is a dream  We were like two young s...
31      So at last youre free  Its the way you wanted ...
32      You feel bad let me tell you we all get the bl...
33      Honey honey how you thrills me ah-hah honey ho...
34      I am just a girl  One among the others nothing...
35      i am the city you let me be  i am the city    ...
36      Love me or leave me  Make your choice but beli...
37      I have a dream a song to sing  To help me cope...
38      Im hearing images Im seeing songs  No poet has...
39      I saw it in the mirror  I saw it in my face  T...
40      This park and these houses old streets I have ...
41      This park and these houses  Old streets I have...
42      I got appointments work I have to do  Keepin m...
43      Youre so free  Thats what everybodys tellin me...
44      I Ive been in love before  I thought I would n...
45      Super Trooper beams are gonna blind me  But I ...
46      Just a notion thats all  Just a feeling that y...
47      Well I was looking at a movie on the TV last n...
48      Lay your head on my chest so you hear every be...
49      No more carefree laughter  Silence ever after ...
50      I wasnt jealous before we met  Now every woman...
51      Long awaited darkness falls  Casting shadows o...
52      Spring in the air  The sun was shining  Still ...
53      Do you remember the first time and all of your...
54      Ive always hated my room its so gloomy and dre...
55      Sit down and listen cause Ive got good news fo...
```

```
56    [Chorus]  Mamma mia here I go again  My my how...
57    Did you see that man in the limousine  With th...
58    Well there was me and Bobby and Bobbys brother...
59    Sometimes when Im mad  Theres a part of me tha...
60    I have tried in vain never had success  So it ...
61    Well you wake up in the morning  Hear the ding...
62    I work all night I work all day to pay the bil...
63    They say a restless body can hide a peaceful s...
64    Ive seen it on your face  Tells me more than a...
65    Tried to sneak out without saying  With my lou...
66    Every day in the morning on her way to the off...
67    I was at a party  And this feller said to me   ...
68    No smiles not a single word at the breakfast t...
69    They passed me by all of those great romances ...
70    The summer air was soft and warm  The feeling ...
71    People need hope people need lovin  People nee...
72    Gonna jump down  Spin around  Pick a bale of c...
73    Put on your white sombrero  Saddle your horse ...
74    You can dance  You can jive  Having the time o...
75    Rikky Rockn Roller now that youre the headline...
76    I was sitting by the phone  I was waiting all ...
77    Rock me give me that kick now  Rock me show me...
78    Sitting in the darkest corner  In the tender l...
79    The poster on the wall of a dear friend  I wis...
80    Where are those happy days they seem so hard t...
81    Frida  He stands  Towering over me beside my b...
82    See me sitting in the palm tree  Looking down ...
83    Schoolbag in hand she leaves home in the early...
84    You think youre gonna make me sulk you and you...
85    Do I hear what I think Im hearing  Do I see th...
86    And when I see the sign that points one way  T...
87    Summer night city  Summer night city    Waitin...
88    Suzy was nine and I was ten  Right at the time...
89    Suzy was nine and I was ten  Right at the time...
90    If you change your mind Im the first in line  ...
91    Im nothing special in fact Im a bit of a bore ...
92    Are you sure you want to hear more  What if I ...
93    I must have left my house at eight because I a...
94    I believe your new girl turned you down  And t...
95    Ive seen you twice in a short time  Only a wee...
96    They came from the hills  And they came from t...
97    I hear the doorbell ring and suddenly the pani...
98    You and I can share the silence  Finding comfo...
99    I dont want to talk  About the things weve gon...
Name: text, dtype: object
```

Kmeans

```
In [133]:  df['text'] = df['text'].str.replace('\n', '')
```

```
In [135]:  import pandas as pd
           import numpy as np
           import matplotlib.pyplot as plt
           import seaborn
           from sklearn.cluster import KMeans
           from sklearn.feature_extraction.text import TfidfVectorizer, CountVectorizer
           from nltk.corpus import stopwords
           from nltk.stem import WordNetLemmatizer
           from sklearn.decomposition import PCA
           from sklearn.decomposition import TruncatedSVD
           import nltk
           from wordcloud import WordCloud
           from sklearn.linear_model import LogisticRegression
           from sklearn.model_selection import train_test_split
           from sklearn.dummy import DummyClassifier
           from sklearn.decomposition import LatentDirichletAllocation
```

In [137]:
```python
# components for features reduction
n_components = 7

# number of clusters we want
n_clusters = 7

# covert words into TFIDF metrics
tfidf = TfidfVectorizer(stop_words = 'english')
X_text = tfidf.fit_transform(df['text'])

# reduce dimensions
svd = TruncatedSVD(n_components=n_components, random_state = 0)
X_2d = svd.fit_transform(X_text)

# fit k-mean clustering
kmeans = KMeans(n_clusters=n_clusters, random_state = 0)

# predict our clusters for each song
X_clustered = kmeans.fit_predict(X_2d)

# display by groups
df_plot = pd.DataFrame(list(X_2d), list(X_clustered))
df_plot = df_plot.reset_index()
df_plot.rename(columns = {'index': 'Cluster'}, inplace = True)
df_plot['Cluster'] = df_plot['Cluster'].astype(int)

print(df_plot.head())

print(df_plot.groupby('Cluster').agg({'Cluster': 'count'}))
```

```
   Cluster         0         1         2         3         4         5  \
0        2  0.183895 -0.060126 -0.031525  0.014581  0.054588 -0.006590
1        6  0.085486 -0.019160  0.003873  0.017642 -0.027477 -0.007891
2        6  0.091885  0.036220 -0.009392  0.000172  0.019997  0.007479
3        6  0.071670  0.074906  0.008810  0.012853 -0.001403 -0.015452
4        6  0.085157  0.084779  0.007989  0.013420  0.000017 -0.018803

          6
0  0.015711
1  0.000197
2  0.002685
3  0.004816
4  0.005636
        Cluster
Cluster
0          6881
1          2327
2          9581
3           338
4          4306
5          2140
6         32077
```

Logistic regression

```
In [33]: import pandas as pd
         import numpy as np
         from tqdm import tqdm
         tqdm.pandas(desc="progress-bar")
         from gensim.models import Doc2Vec
         from sklearn import utils
         from sklearn.model_selection import train_test_split
         import gensim
         from sklearn.linear_model import LogisticRegression
         from gensim.models.doc2vec import TaggedDocument
         import re
         import seaborn as sns
         import matplotlib.pyplot as plt

         df = pd.read_csv('/Users/mille/Desktop/Unit 4 - Capstone/songdata.csv')
         df = df[['text','artist']]
         df = df[pd.notnull(df['text'])]
         df.head(10)
```

Out[33]:

	text	artist
0	Look at her face, it's a wonderful face \nAnd...	ABBA
1	Take it easy with me, please \nTouch me gentl...	ABBA
2	I'll never know why I had to go \nWhy I had t...	ABBA
3	Making somebody happy is a question of give an...	ABBA
4	Making somebody happy is a question of give an...	ABBA
5	Well, you hoot and you holler and you make me ...	ABBA
6	Down in the street they're all singing and sho...	ABBA
7	Chiquitita, tell me what's wrong \nYou're enc...	ABBA
8	I was out with the morning sun \nCouldn't sle...	ABBA
9	I'm waitin' for you baby \nI'm sitting all al...	ABBA

```
In [34]: df.shape
```

Out[34]: (57650, 2)

```
In [35]: #the number of words in the text
         df.index = range(57650)
         df['text'].apply(lambda x: len(x.split(' '))).sum()
```

Out[35]: 15205879

There are 15 million words in the text column.

In [36]:
```python
df['text'] = df['text'].str.replace('\n', '')
df['text'] = df['text'].str.replace("'", '')
df['text'] = df['text'].str.replace(',', '')
df['text'] = df['text'].str.replace('?', '')


df.head()
```

Out[36]:

	text	artist
0	Look at her face its a wonderful face And it ...	ABBA
1	Take it easy with me please Touch me gently I...	ABBA
2	Ill never know why I had to go Why I had to p...	ABBA
3	Making somebody happy is a question of give an...	ABBA
4	Making somebody happy is a question of give an...	ABBA

In [37]:
```python
cnt_pro = df['artist'].value_counts()
plt.figure(figsize=(12,4))
sns.barplot(cnt_pro.index, cnt_pro.values, alpha=0.8)
plt.ylabel('Number of Occurrences', fontsize=12)
plt.xlabel('artist', fontsize=12)
plt.xticks(rotation=90)
plt.show();
```
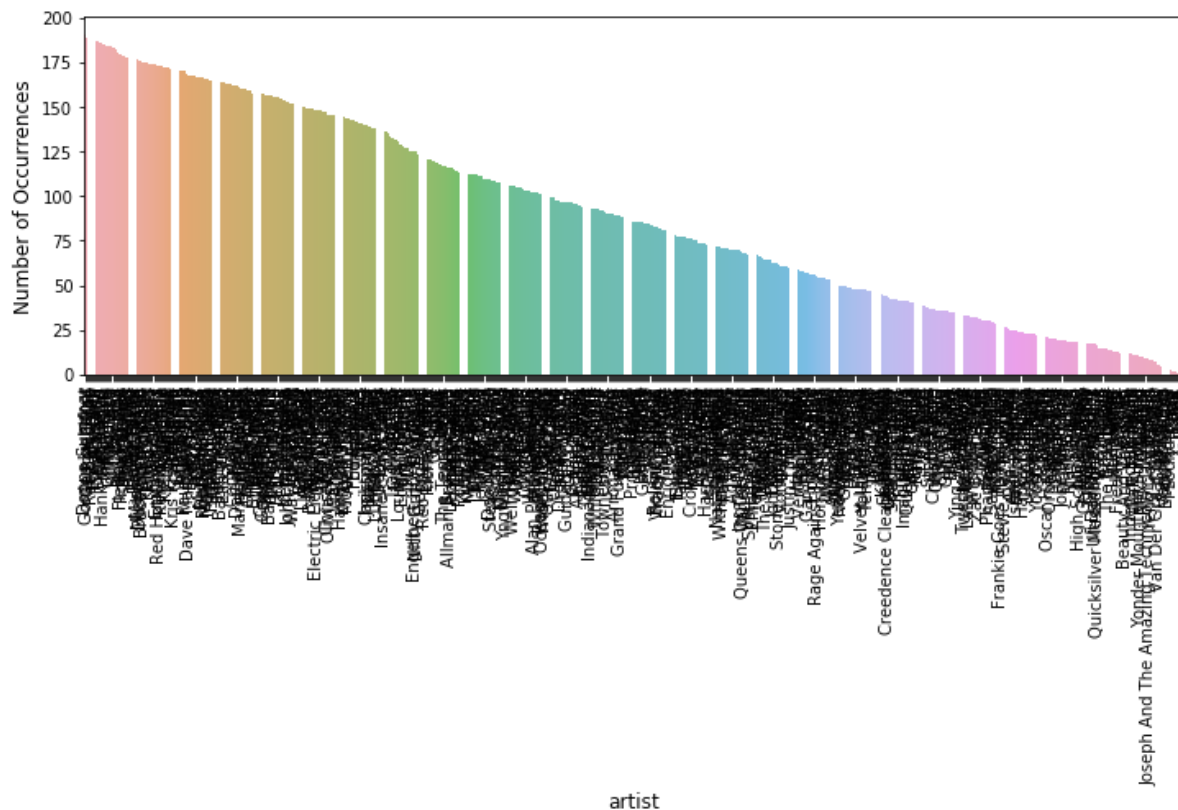
Any imbalance among the classes?

In [38]:
```python
def print_text(index):
    example = df[df.index == index][['text', 'artist']].values[0]
    if len(example) > 0:
        print(example[0])
        print('artist:', example[1])
print_text(12)
```

Changing moving in a circle I can see your face in all of my dreams Smiling laughing from the shadows When I hear your voice I know what it means I know it doesnt matter just how hard I try Youre all the reason for my life   Disillusion disillusions all you left for me How can I forget you when my world is breaking down Youre all I had youre all I want Disillusion disillusions now thats all I have   Wishing hoping chasing shadows Did I see your face somewhere in the crowd Thinking wondering what youre doing I cant stop myself from crying out loud They say my wound will heal and only leave a scar But then they never shared our love   Disillusion disillusions all you left for me How can I forget you when my world is breaking down Youre all I had youre all I want Disillusion disillusions now thats all I have   Disillusion disillusions now thats all I have
artist: ABBA

In [39]:
```python
print_text(20)
```

Im down and I feel depressed Sitting here just waiting For next bus travelling Downtown Its a crying shame Isnt it The beautiful weather If I could have my way Well I would not be working On a day like this I know what Id like to be As free as a bumble bee Take a sip from Every flower Free as a bumble bee While away each lazy hour What a good life Lying laid back Like an old railroad bum by the track What a good life Living outdoors Lie in the grass and chew on a straw
artist: ABBA

In [40]:
```python
from bs4 import BeautifulSoup
def cleanText(text):
    text = BeautifulSoup(text, "lxml").text
    text = re.sub(r'\|\|\|', r' ', text)
    text = re.sub(r'http\S+', r'<URL>', text)
    text = text.lower()
    text = text.replace('x', '')
    return text
df['text'] = df['text'].apply(cleanText)
```

In [41]:
```python
train, test = train_test_split(df, test_size=0.3, random_state=42)
import nltk
from nltk.corpus import stopwords
def tokenize_text(text):
    tokens = []
    for sent in nltk.sent_tokenize(text):
        for word in nltk.word_tokenize(sent):
            if len(word) < 2:
                continue
            tokens.append(word.lower())
    return tokens
train_tagged = train.apply(
    lambda r: TaggedDocument(words=tokenize_text(r['text']), tags=[r.artist]),
axis=1)
test_tagged = test.apply(
    lambda r: TaggedDocument(words=tokenize_text(r['text']), tags=[r.artist]),
axis=1)
```

In [42]:
```python
train_tagged.values[30]
```

Out[42]:
```
TaggedDocument(words=['words', 'and', 'music', 'by', 'bob', 'seger', 'went',
'out', 'in', 'norfork', 'hung', 'on', 'short', 'short', 'livin', 'with', 'bot
tle', 'of', 'wine', 'to', 'music', 'ladies', 'and', 'burned', 'out', 'babie
s', 'was', 'tryin', 'to', 'write', 'couple', 'of', 'lines', 'sherriff', 'grib
bs', 'with', 'his', 'grim', 'ad', 'libs', 'spoutin', 'bout', 'the', 'crime',
'in', 'the', 'streets', 'and', 'women', 'were', 'screamin', 'and', 'some', 'w
ere', 'dreamin', 'bout', 'the', 'crowd', 'between', 'the', 'sheets', 'you',
'know', 'that', 'music', 'died', 'hurt', 'my', 'pride', 'somehow', 'got', 'th
rough', 'back', 'in', '72', 'somehow', 'we', 'made', 'it', 'to', 'baton', 'ro
uge', 'we', 'stayed', 'inside', 'for', 'week', 'we', 'werent', 'in', 'town',
'for', 'no', 'mardi', 'gras', 'so', 'we', 'decided', 'to', 'sleep', 'housto
n', 'yes', 'was', 'good', 'old', 'guest', 'tho', 'knows', 'how', 'bad', 'we',
'wanted', 'to', 'play', 'but', 'we', 'got', 'homesick', 'for', 'lincoln', 'pa
rk', 'imagine', 'that', 'and', 'then', 'we', 'just', 'couldnt', 'stay', 'tric
ky', 'dick', 'he', 'played', 'it', 'slick', 'something', 'was', 'afraid', 'he
d', 'do', 'back', 'in', '72', 'oh', '72', 'then', 'all', 'our', 'new', 'bor
n', 'philosophers', 'out', 'went', 'to', 'alert', 'the', 'world', 'then', 'so
me', 'psuedo-intellectuals', 'even', 'got', 'it', 'unfurled', 'takin', 'note
s', 'on', 'that', 'harvard', 'course', 'and', 'got', 'me', 'on', 'bottle', 'o
f', 'seed', 'it', 'was', 'so', 'hip', 'to', 'be', 'negative', 'so', 'square',
'to', 'try', 'and', 'leave', 'when', 'the', 'waters', 'cleared', 'it', 'was',
'what', 'we', 'feared', 'we', 'learned', 'nothin', 'new', 'back', 'in', '72',
'72', '72', 'in', '72', 'back', 'in', '72', 'back', 'in', '72', 'back', 'in',
'72', '...'], tags=['Bob Seger'])
```

In [46]:
```python
train_tagged.head()
```

Out[46]:
```
12009    ([jealous, heart, oh, jealous, heart, stop, be...
15188    ([so, many, times, ive, walked, this, way, too...
39232    ([yea, mr., jt, now, what, you, got, for, me, ...
7375     ([dont, want, to, ever, fall, in, love, again,...
16476    ([hey, yo, puff, check, this, out, pa, im, tir...
dtype: object
```

Logistic Regression

```
In [47]: Y = df['artist']
         X = df['text']
```

In [48]:

```python
# Apply to testing data
from sklearn.linear_model import LogisticRegression

lr = LogisticRegression(penalty='l2')
X_train, X_test, y_train, y_test = train_test_split(X, Y, test_size=0.4, random_state=0)

train = lr.fit(X_train, y_train)

lr = LogisticRegression()
train = lr.fit(X_train, y_train)

y_hat = lr.predict(X_test)
```

```
C:\Users\mille\Conda3\lib\site-packages\sklearn\linear_model\logistic.py:433:
FutureWarning: Default solver will be changed to 'lbfgs' in 0.22. Specify a s
olver to silence this warning.
  FutureWarning)
```

```
---------------------------------------------------------------------------
ValueError                                Traceback (most recent call last)
<ipython-input-48-12717ea90f87> in <module>
      5 X_train, X_test, y_train, y_test = train_test_split(X, Y, test_size=
0.4, random_state=0)
      6
----> 7 train = lr.fit(X_train, y_train)
      8
      9 lr = LogisticRegression()

~\Conda3\lib\site-packages\sklearn\linear_model\logistic.py in fit(self, X,
 y, sample_weight)
   1286
   1287          X, y = check_X_y(X, y, accept_sparse='csr', dtype=_dtype, ord
er="C",
-> 1288                          accept_large_sparse=solver != 'liblinear')
   1289          check_classification_targets(y)
   1290          self.classes_ = np.unique(y)

~\Conda3\lib\site-packages\sklearn\utils\validation.py in check_X_y(X, y, acc
ept_sparse, accept_large_sparse, dtype, order, copy, force_all_finite, ensure
_2d, allow_nd, multi_output, ensure_min_samples, ensure_min_features, y_numer
ic, warn_on_dtype, estimator)
    754                      ensure_min_features=ensure_min_features,
    755                      warn_on_dtype=warn_on_dtype,
--> 756                      estimator=estimator)
    757      if multi_output:
    758          y = check_array(y, 'csr', force_all_finite=True, ensure_2d=Fa
lse,

~\Conda3\lib\site-packages\sklearn\utils\validation.py in check_array(array,
 accept_sparse, accept_large_sparse, dtype, order, copy, force_all_finite, en
sure_2d, allow_nd, ensure_min_samples, ensure_min_features, warn_on_dtype, es
timator)
    525              try:
    526                  warnings.simplefilter('error', ComplexWarning)
--> 527                  array = np.asarray(array, dtype=dtype, order=order)
    528              except ComplexWarning:
    529                  raise ValueError("Complex data not supported\n"

~\Conda3\lib\site-packages\numpy\core\numeric.py in asarray(a, dtype, order)
    499
    500      """
--> 501      return array(a, dtype, copy=False, order=order)
    502
    503

ValueError: could not convert string to float: 'fifteen years le bing son  fo
ught side by side with the americans  in the mountains and deltas of vietnam
in 75 saigon fell  and he left his command  and brought his family to the pro
mised land    seabrook teas and the small towns  in the gulf of meico  it was
delta country and reminded him of home     he worked as a machinist put his mo
ney away  and bought a shrimp boat with his cousin  and together they harvest
ed galveston bay    in the mornin fore the sun come up  hed kiss his sleepin
 daughter  steer out through the channel  and casts his nets into the water
billy sutter fought with charlie company  in the highlands of quang tri  he w
as wounded in the battle of chu lai  and shipped home in 68     there he marri
```

ed and worked the gulf fishing grounds in a boat thatd been his fathers in
 the morning hed kiss his sleeping son and cast his nets into the water   b
illy sat in front of his tv as the south fell and the communists rolled into
saigon he and his friends watched as the refugees came settle on the same s
treets and worked the coast they grew up on   soon in the bars around the ha
rbor was talk of america for americans someone said "you want em out you go
t to burn em out" and brought in the teas klan   one humid teas night there
were three shadows on the harbor come to burn the vietnamese boats into the
 sea in the fires light shots rang out two teans lay dead on the ground le
stood with a pistol in his hand   a jury acquitted him in self defense as b
efore the judge he did stand but as he walked down the courthouse steps bil
ly said "my friend youre a dead man"   one late summer night le stood watch
 along the waterside billy stood in the shadows his k-bar knife in his hand
and the moon slipped behind the clouds   le lit a cigarette the bay was as s
till as glass as he walked by billy stuck his knife into his pocket took a
 breath and let him pass   in the early darkness billy rose up went into th
e kitchen for a drink of water kissed his sleeping wife headed into the cha
nnel and casts his nets into the water   of galveston bay'

In [ ]:
```python
#fit lr

lr.fit(X_train, y_train)

# Apply to testing data
y_hat = lr.predict(X_test)

cross = pd.crosstab(y_hat, y_test)

print('Training set score:', lr.score(X_train, y_train))
print('\nTest set score:', lr.score(X_test, y_test))
print(classification_report(y_test, y_hat))
print(cross)
```