

Find the best song for this phrase!

Say you believe in love



Step 1) Find the IDF for each word in the phrase

Word	SAY	YOU	BELIEVE	IN	LOVE
IDF					

1

Step 2) Calculate the TF-IDF for each of the songs

Find the word count and total word count for each song on the posters!

TF IDF =

Number of times
a word is in a song

Total number of
words in a song

TF

x

Inverse document
frequency

IDF

Step 3) Calculate the total TF-IDF for each song using the tables below! The highest score is the best match!

2

Song 1: Dance the night

Total word count: _____

	Word Count	TF <small>Word Count Total word count for song</small>	IDF <small>(from step 1)</small>	TF-IDF <small>(TF x IDF)</small>
SAY				
YOU				
BELIEVE				
IN				
LOVE				
			Total TF-IDF (Sum of TF-IDF)	

2

1

Song 2: Flowers

Total word count: _____

	Word Count	TF <div>Word Count</div> <div>Total word count for song</div>	IDF (from step 1)	TF-IDF (TF x IDF)
SAY				
YOU				
BELIEVE				
IN				
LOVE				
			Total TF-IDF (Sum of TF-IDF)	

Song 3: Let it go

Total word count: _____

	Word Count	TF <div>Word Count</div> <div>Total word count for song</div>	IDF (from step 1)	TF-IDF (TF x IDF)
SAY				
YOU				
BELIEVE				
IN				
LOVE				
			Total TF-IDF (Sum of TF-IDF)	

Song 4: September

Total word count: _____

	Word Count	TF <div>Word Count</div> <div>Total word count for song</div>	IDF (from step 1)	TF-IDF (TF x IDF)
SAY				
YOU				
BELIEVE				
IN				
LOVE				
			Total TF-IDF (Sum of TF-IDF)	

Song 5: Shake it off

Total word count: _____

	Word Count	TF <small>$\frac{\text{Word Count}}{\text{Total word count for song}}$</small>	IDF <small>(from step 1)</small>	TF-IDF <small>(TF x IDF)</small>
SAY				
YOU				
BELIEVE				
IN				
LOVE				
			Total TF-IDF <small>(Sum of TF-IDF)</small>	

Song 6: We don't talk about Bruno

Total word count: _____

	Word Count	TF <small>$\frac{\text{Word Count}}{\text{Total word count for song}}$</small>	IDF <small>(from step 1)</small>	TF-IDF <small>(TF x IDF)</small>
SAY				
YOU				
BELIEVE				
IN				
LOVE				
			Total TF-IDF <small>(Sum of TF-IDF)</small>	

	Total TF-IDF
Dance the night	
Flowers	
Let it go	
September	
Shake it off	
We don't talk about Bruno	

Best suggestion!

Largest TF-IDF Score
Best Song Title