

Let's understand how a sentence is represented in numeric (vector) form using label Encoding technique.

Say you want to represent following sentences in numeric form

- Dog bites man.
  - Man bites dog.
  - Dog eats meat.
  - Man eats food.
  - Dog Dog friends.
- clean the text eg lower all words, remove punctuations, .... using regular expressions / string manipulation  
 → then remove stop words from these sentences  
 → then apply stemming / lemmatization on these sentences  
 → vocabulary = {dog, bites, man, eats, meat, food}  
 set  
 (lastly do word tokenize)

this sequence could be as you wish.

	0	1	2	3	4	5
	Dog	bites	man	eats	meat	food
Dog bites man	1	1	1	0	0	0
Man bites dog	1	1	1	0	0	0
Dog eats meat	1	0	0	1	1	0
Man eats food.	0	0	1	1	0	1

Dog bites man	[0 1 2]
Man bites dog	[2 1 0]
Dog eats meat	[0 3 4]
Man eats food.	[2 3 5]

vector representation

Let's understand how a paragraph is represented in numeric (vector) form using bag of words (BoW) technique.

Paragraph is nothing but a set of sentences. Hence stack the numeric form of each sentence to get numeric form of paragraph

Dog bites man.  
 Man bites dog.  
 Dog eats meat.  
 Man eats food.  
 Dog Dog friends.

paragraph

numeric representation

[0 1 2 2 1 0 0 3 4 2 3 5]