

**Hong Kong Baptist University**  
**Department of Computer Science**

**COMP1007 Introduction to Python and Its Applications**  
**First Semester 2020-2021**

**Assignment #2**

Assigned Date: 14<sup>th</sup> October 2020 (Wednesday)  
Due Date for Section 1: Before 1:30pm, 5<sup>th</sup> November 2020 (Thursday)  
Due Date for Section 2: Before 1:30pm, 4<sup>th</sup> November 2020 (Wednesday)

**Description:**

This is an exercise to design and write a Python program in good programming style on Textual Analysis. In this exercise, you are going to analyze whether an article is positive, negative, or neutral according to the given positive and negative wordlists.

With the positive and negative wordlists as specify in the two files: "pos\_list.txt" and "neg\_list.txt", the Positive Index and the Negative Index (i.e., the number of positive and negative words in the article) are calculated accordingly. Then you can conclude that article is either Positive, Negative, or Neutral. You also need to find out the Hit Rate of the positive and negative words with respect to the number of words in the article.

**What to submit:**

Save all your source codes as a single Python file, name it "<yourSSOid>-assign2.py", and submit it through the course page at BU Moodle. That is, if your SSoid is 20709394, then you should name your python file, 20709394-assign2.py

**Notes:**

To become a good programmer, one should

1. Make use of the docstring to describe what this program is about in the Program Header
2. Put inline comments to remind you what a particular piece of code is about
3. Add in blank lines and makes the program more readable
4. Use meaningful names for functions and variables

*- Happy Programming -*

## Sample Input Files

Positive Word List – “pos_list.txt”	Negative Word List – “neg_list.txt”
Joyful Glory Light Love Hope Good Fame Glad Gain Happiness	Sad Sin Dark Pain Gone Hurt Hate Alone Loss Sorrow

### Sample Positive Article – “Joyful.txt”

Joyful - Brenton Brown  
Joyful joyful we adore You  
God of glory, Lord of love  
Hearts unfold like flowers before You  
Opening to the sun above  
Melt the clouds of sin and sadness  
Drive the dark of doubt away  
Giver of Eternal gladness  
Fill us with the light of day  
You are the One who saves  
You are the One who saves  
You are the One who's hands lift us from the grave  
You are the light of life  
The everlasting day  
You are the One who takes all our sins away

### Sample Negative Article – “SadSongs.txt”

Sad Songs (Say So Much) - Elton John  
Guess there are times when we all need to share a little pain  
And ironing out the rough spots  
Is the hardest part when memories remain  
And it's times like these when we all need to hear the radio  
'Cause from the lips of some old singer  
We can share the troubles we already know  
Turn 'em on, turn 'em on  
Turn on those sad songs  
When all hope is gone  
Why don't you tune in and turn them on  
They reach into your room, oh oh oh  
Just feel their gentle touch (gentle touch)  
When all hope is gone  
Sad songs say so much  
If someone else is suffering enough oh to write it down  
When every single word makes sense  
Then it's easier to have those songs around  
The kick inside is in the line that finally gets to you  
And it feels so good to hurt so bad  
And suffer just enough to sing

### Sample Neutral Article – “LifeIsaGame.txt”

Life Is A Game - Poem by shraddha shraddha the poetess  
Whenever you feel alone or you feel sad  
do something which makes you feel glad  
it's fine if you find situations not so good,,  
but don't think them bad..  
anything could happen to anyone in this life  
as life is a game....  
someone get exploited, otherone get fame  
this is not compulsory that all the situations be always same  
someone get a huge loss, anyone else get gain...  
sorrow and happiness both are stations,  
of life named mooving train! ! !  
if you now this fact then no more pain...  
as life is a game! ! !

### Sample Run #1:

Textual Analysis:

Please type in the filename> Joyful.txt

Number of words in Joyful.txt : 91

Dictionary

=====

joyful : 3  
glory : 1  
light : 2  
love : 1  
sin : 1  
dark : 1

=====

Hit Rate = 9 / 91 = 9.890%

Positive Index: 7

Negative Index: 2

Joyful.txt is Positive

### Sample Run #2:

Textual Analysis:

Please type in the filename> SadSongs.txt

Number of words in SadSongs.txt : 164

Dictionary

=====

hope : 2  
good : 1  
sad : 3  
pain : 1  
gone : 2  
hurt : 1

=====

Hit Rate = 10 / 164 = 6.098%

Positive Index: 3

Negative Index: 7

SadSongs.txt is Negative

### Sample Run #3:

Textual Analysis:

Please type in the filename> LifeIsaGame.txt

Number of words in LifeIsaGame.txt : 103

Dictionary

=====

good : 1  
fame : 1  
glad : 1  
gain : 1  
happiness : 1  
sad : 1  
pain : 1  
alone : 1  
loss : 1  
sorrow : 1

=====

Hit Rate = 10 / 103 = 9.709%

Positive Index: 5

Negative Index: 5

LifeIsaGame.txt is Neutral