Experiment No : 1

```python
from nltk.tokenize import sent_tokenize, word_tokenize

from nltk.stem import PorterStemmer

from nltk.tokenize import word_tokenize

from nltk.corpus import stopwords

from nltk.stem import WordNetLemmatizer

f = open("C:/Users/MY/Desktop/New folder/song.txt", "r")

if f.mode == 'r':

        text = f.read()

st=sent_tokenize(text)

wt=word_tokenize(text)

print("\nTokenization : \n\n")

print("Sentence Tokenized:\n",st)

print("\n\nWord Tokeized:\n",wt)

print("\n\nHandling Hyphenation, Punctuation, Numericals and Date:\n\n")

words = [word for word in wt if word.isalpha()]

print(words)

print("\n\nStopwords removal:\n\n")

stop_words = set(stopwords.words('english'))

filtered_sentence = [w for w in words if not w in stop_words]

print(filtered_sentence)


print("\n\nCasefolding:\n\n")

casef=[]
```

```python
for i in filtered_sentence:

        i=i.casefold()

        casef.append(i)

print(casef)


print("\n\nStemming:\n\n")


ps = PorterStemmer()

for w in casef:

        print(w, " : ", ps.stem(w))


lemmatizer = WordNetLemmatizer()

print("\n\nLemmatization:\n\n")

for i in casef:

        print(i, " : ",lemmatizer.lemmatize(i))
```

Output:

C:\Users\MY\Desktop>python exp1.py

Input :

"Look at her face, it's 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?

She's just my kind of girl, she makes me feel fine

Who could ever believe that she could be mine?

She's just my kind of girl, without her I'm 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

We'll go on walking for hours and talking

About all the things that we plan

She's just my kind of girl, she makes me feel fine

Who could ever believe that she could be mine?

She's just my kind of girl, without her I'm blue

And if she ever leaves me what could I do, what could I do?

"

Tokenization :

Sentence Tokenized:

['"Look at her face, it\'s a wonderful face \nAnd it means something special to me \nLook at the way that she smiles when she sees me \nHow lucky can one fellow be?', "She's just my kind of girl, she makes me feel fine \nWho could ever believe that she could be mine?", "She's just my kind of girl, without her I'm blue \nAnd if she ever leaves me what could I do, what could I do?", "And when we go for a walk in the park \nAnd she holds me and squeezes my hand \nWe'll go on walking for hours and talking \nAbout all the things that we plan \n \nShe's just

my kind of girl, she makes me feel fine \nWho could ever believe that she could be mine?",
'She\'s just my kind of girl, without her I\'m blue \nAnd if she ever leaves me what could I do,
what could I do?\n\n"']

Word Tokeized:

 ['``', 'Look', 'at', 'her', 'face', ',', 'it', "'s", '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', '?', 'She', "'s", 'just', 'my', 'kind', 'of', 'girl', ',', 'she', 'makes', 'me',
'feel', 'fine', 'Who', 'could', 'ever', 'believe', 'that', 'she', 'could', 'be', 'mine', '?', 'She', "'s", 'just',
'my', 'kind', 'of', 'girl', ',', 'without', 'her', 'I', "'m", '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', 'We', "'ll", 'go', 'on', 'walking', 'for',
'hours', 'and', 'talking', 'About', 'all', 'the', 'things', 'that', 'we', 'plan', 'She', "'s", 'just', 'my', 'kind',
'of', 'girl', ',', 'she', 'makes', 'me', 'feel', 'fine', 'Who', 'could', 'ever', 'believe', 'that', 'she', 'could', 'be',
'mine', '?', 'She', "'s", 'just', 'my', 'kind', 'of', 'girl', ',', 'without', 'her', 'I', "'m", 'blue', 'And', 'if', 'she',
'ever', 'leaves', 'me', 'what', 'could', 'I', 'do', ',', 'what', 'could', 'I', 'do', '?', "''"]

Handling Hyphenation, Punctuation, Numericals and Date:

['Look', 'at', 'her', 'face', 'it', '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', 'She', 'just', 'my', 'kind', 'of', 'girl', 'she', 'makes', 'me', 'feel', 'fine', 'Who',
'could', 'ever', 'believe', 'that', 'she', 'could', 'be', 'mine', 'She', 'just', 'my', 'kind', 'of', 'girl', 'without',
'her', 'I', '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', 'We', 'go', 'on', 'walking', 'for', 'hours', 'and', 'talking', 'About', 'all', 'the', 'things', 'that',
'we', 'plan', 'She', 'just', 'my', 'kind', 'of', 'girl', 'she', 'makes', 'me', 'feel', 'fine', 'Who', 'could', 'ever',
'believe', 'that', 'she', 'could', 'be', 'mine', 'She', 'just', 'my', 'kind', 'of', 'girl', 'without', 'her', 'I',
'blue', 'And', 'if', 'she', 'ever', 'leaves', 'me', 'what', 'could', 'I', 'do', 'what', 'could', 'I', 'do']

Stopwords removal:

['Look', 'face', 'wonderful', 'face', 'And', 'means', 'something', 'special', 'Look', 'way', 'smiles', 'sees', 'How', 'lucky', 'one', 'fellow', 'She', 'kind', 'girl', 'makes', 'feel', 'fine', 'Who', 'could', 'ever', 'believe', 'could', 'mine', 'She', 'kind', 'girl', 'without', 'I', 'blue', 'And', 'ever', 'leaves', 'could', 'I', 'could', 'I', 'And', 'go', 'walk', 'park', 'And', 'holds', 'squeezes', 'hand', 'We', 'go', 'walking', 'hours', 'talking', 'About', 'things', 'plan', 'She', 'kind', 'girl', 'makes', 'feel', 'fine', 'Who', 'could', 'ever', 'believe', 'could', 'mine', 'She', 'kind', 'girl', 'without', 'I', 'blue', 'And', 'ever', 'leaves', 'could', 'I', 'could', 'I']

Casefolding:

['look', 'face', 'wonderful', 'face', 'and', 'means', 'something', 'special', 'look', 'way', 'smiles', 'sees', 'how', 'lucky', 'one', 'fellow', 'she', 'kind', 'girl', 'makes', 'feel', 'fine', 'who', 'could', 'ever', 'believe', 'could', 'mine', 'she', 'kind', 'girl', 'without', 'i', 'blue', 'and', 'ever', 'leaves', 'could', 'i', 'could', 'i', 'and', 'go', 'walk', 'park', 'and', 'holds', 'squeezes', 'hand', 'we', 'go', 'walking', 'hours', 'talking', 'about', 'things', 'plan', 'she', 'kind', 'girl', 'makes', 'feel', 'fine', 'who', 'could', 'ever', 'believe', 'could', 'mine', 'she', 'kind', 'girl', 'without', 'i', 'blue', 'and', 'ever', 'leaves', 'could', 'i', 'could', 'i']

Stemming:

look : look

face : face

wonderful : wonder

face : face

and : and

means : mean

something : someth

special : special

look : look

way : way

smiles : smile

sees : see

how : how

lucky : lucki

one : one

fellow : fellow

she : she

kind : kind

girl : girl

makes : make

feel : feel

fine : fine

who : who

could : could

ever : ever

believe : believ

could : could

mine : mine

she : she

kind : kind

girl : girl

without : without

i : i

blue : blue

and : and

ever : ever

leaves : leav

could : could

i : i

could : could

i : i

and : and

go : go

walk : walk

park : park

and : and

holds : hold

squeezes : squeez

hand : hand

we : we

go : go

walking : walk

hours : hour

talking : talk

about : about

things : thing

plan : plan

she : she

kind : kind

girl : girl

makes : make

feel : feel

fine : fine

who : who

could : could

ever : ever

believe : believ

could : could

mine : mine

she : she

kind : kind

girl : girl

without : without

i : i

blue : blue

and : and

ever : ever

leaves : leav

could : could

i : i

could : could

i : i

Lemmatization:

look : look

face : face

wonderful : wonderful

face : face

and : and

means : mean

something : something

special : special

look : look

way : way

smiles : smile

sees : see

how : how

lucky : lucky

one : one

fellow : fellow

she : she

kind : kind

girl : girl

makes : make

feel : feel

fine : fine

who : who

could : could

ever : ever

believe : believe

could : could

mine : mine

she : she

kind : kind

girl : girl

without : without

i : i

blue : blue

and : and

ever : ever

leaves : leaf

could : could

i : i

could : could

i : i

and : and

go : go

walk : walk

park : park

and : and

holds : hold

squeezes : squeeze

hand : hand

we : we

go : go

walking : walking

hours : hour

talking : talking

about : about

things : thing

plan : plan

she : she

kind : kind

girl : girl

makes : make

feel : feel

fine : fine

who : who

could : could

ever : ever

believe : believe

could : could

mine : mine

she : she

kind : kind

girl : girl

without : without

i : i

blue : blue

and : and

ever : ever

leaves : leaf

could : could

i : i

could : could

i : i