The following functions can be run by:

A. Stopword Removal :

Import InfoRetSystem from Inverted_index.py and create an object.
InfoRetSystem class has a function remove_stopwords that takes the list of words for which the stop words should be removed.

Eg: let data = [“Information”,” Retrieval”, “ is”,”a”, “great”,”course”]
To eliminate stopwords.

From Inverted_index import InfoRetSystem
IR = InfoRetSystem()
Filtered_data = IR.remove_stopwords(data))

Filtered_data variable has the list of data that is stopword free

code:

```
from Inverted_index import InfoRetSystem
data = ["Information","retrival","is","a","great","course"]
IR = InfoRetSystem()
filtered_data = IR.remove_stopwords(data)
print(filtered_data)
```

Result:

```
['Information', 'great', 'course', 'retrival']
```

B. Stemming/Lemmatization:

Similarly in the InfoRetSystem, we have a function stemmer which takes list as an input and stems all the words.

Eg:
Code:

```
from Inverted_index import InfoRetSystem
data = ["Program","programming","programmer","programmation"]
IR = InfoRetSystem()
filtered_data = IR.stemmer(data)
print(filtered_data)
```

Result :

```
['program', 'program', 'programm', 'programm']
```

C. Building Index:

The class InfoRetSystem has a function buildIRSystem to build the invertedIndex.
Put all the required files in the folder database and run the script.
Eg:
Code:

```
from Inverted_index import InfoRetSystem
IR = InfoRetSystem()
IR.buildIRSystem()
```

Output:

```
added to invertedindex of 0 in  0.18821501731872559
added to invertedindex of 10 in  2.157958745956421
added to invertedindex of 20 in  4.261301517486572
added to invertedindex of 30 in  6.196771860122681
added to invertedindex of 40 in  8.672465801239014
added to invertedindex of 41 in  8.91909384727478
IRSystem succesfully built in 9.402811288833618 s
```

D. Querying:
The file ParseR has a function retrieveResults when given a query prints all the matching documents and other info about it.

Code:

```
from ParseR import retrieveResults
query = "BRUTUS AND CAESAR AND NOT CALPHURNIA"
retrieveResults(query)
```

Result:

```
5 Documents found relevant for your search :

1. antony-and-cleopatra_TXT_FolgerShakespeare.txt
2. hamlet_TXT_FolgerShakespeare.txt
3. henry-vi-part-2_TXT_FolgerShakespeare.txt
4. henry-v_TXT_FolgerShakespeare.txt
5. titus-andronicus_TXT_FolgerShakespeare.txt
```