

import python modules that are needed in the code



```
from collections import  
defaultdict
```

```
import time
```

```
userFile = input("Enter filename and extension: ")  
openFile = open(userFile, "r").read()  
wordlist = [x.lower() for x in openFile.split("\n")]
```

prompt the user to
enter the filename and
file extension, read the
file and read each word
on a new line.

```
anagrams = defaultdict(list)  
start = time.time()
```

create a dictionary to
store anagrams and
their words.

loop through the wordlist for word A; check A against all other
words in the wordlist to see if they are anagrams of A; if any match
is found, add it to the anagram list A belongs to.

End for

```
for word1 in wordlist
```

End for

```
firstWord = "".join(sorted(word1))
```

```
for word2 in wordlist
```

No

No

```
secondWord =  
"".join(sorted(word2))
```

Yes

```
is_anagram(firstWord, secondWord)?
```

Yes

```
word2 not in anagrams[firstWord]?
```

Yes

```
anagrams[firstWord].append(word2)
```



```
def is_anagram(firstWord, secondWord)
```

function to check if two words are
anagrams of each other

```
firstWord = sorted(firstWord.lower())  
secondWord = sorted(secondWord.lower())
```

```
firstWord == secondWord
```

Yes

```
return True
```

No

```
return False
```

```
End
```



```
def largest_anagram(anagramList)
```

function to check the anagram
dictionary and find the key with the
most values(Largest Anagram)

```
keyCount = defaultdict(list)
```

```
for key in anagramList
```

End for

```
values = [value for value in anagramList]  
valueCount = len(values)  
keyCount[key].append(valueCount)
```

```
maxKey = max(keyCount, key = keyCount.get)  
return maxKey
```

```
End
```

Output the group of words that form the most anagrams and output the
largest anagram

```
print("The group words that form the most anagrams is " + str(anagrams[largest_anagram]) +  
"\n\n" + "The largest anagram is " + largest_anagram)  
stop = time.time()  
timeTaken = round(stop - start, 2)
```

```
timeTaken == 1
```

Yes

```
print("Time Taken: " +  
str(timeTaken) +  
"second")
```

No

```
print("Time Taken: " +  
str(timeTaken) +  
"second")
```

```
End
```

FLOWCHART FOR GROUP 5 PROJECT TITLED “ANAGRAMS”

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