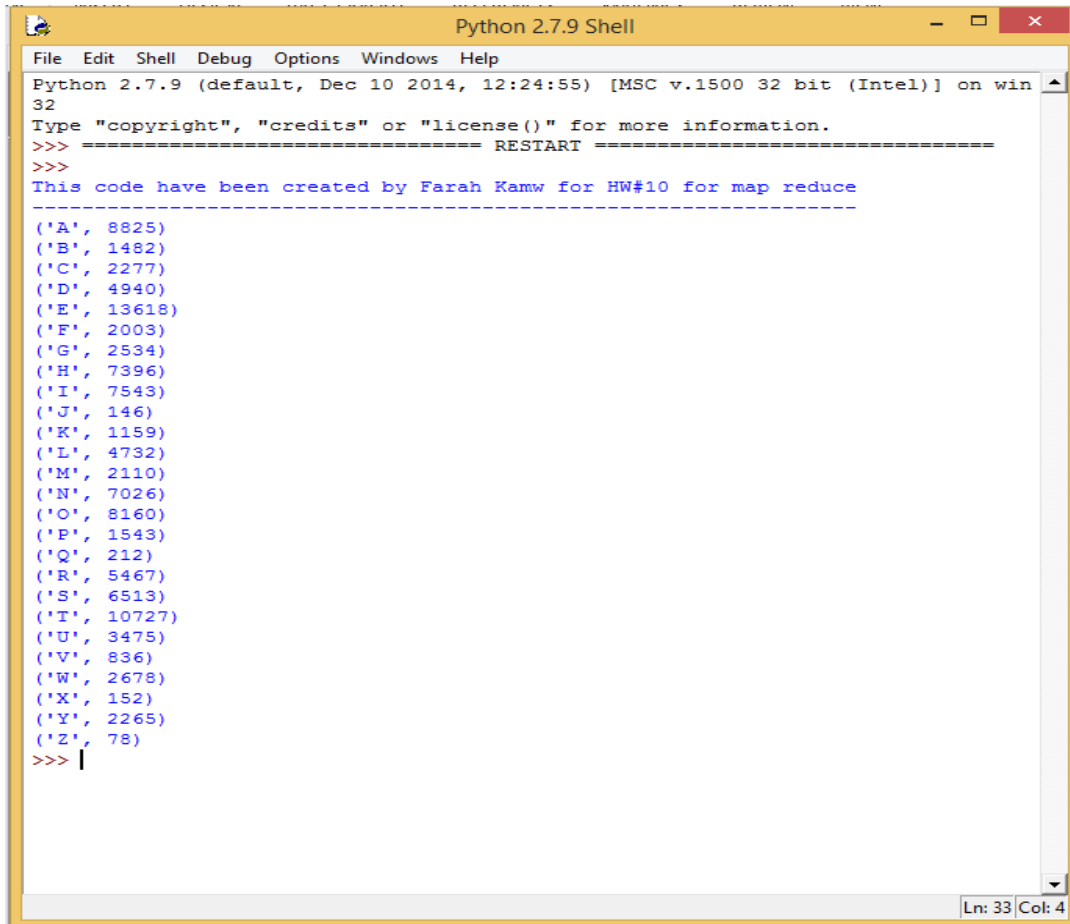


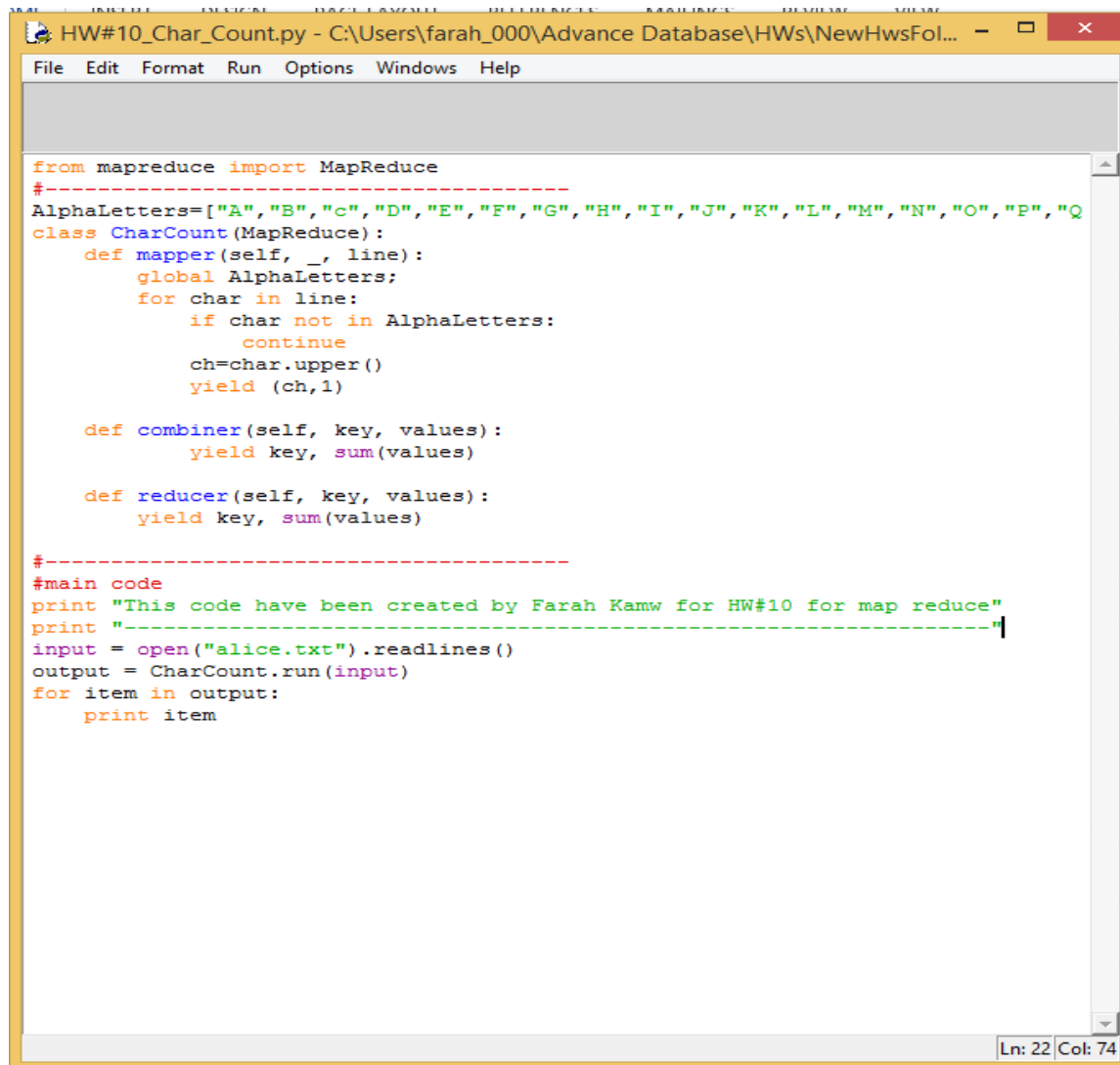
1. I have created a code in python (I used the mapreduce.py that you put on your Github account) to count the frequency of each upper case letter. In this code, I ignored all characters that is not alpha letters, also I have converted the lower case letters to upper case letters. See the result on figure 1 and the code in figure two.



```
Python 2.7.9 Shell
File Edit Shell Debug Options Windows Help
Python 2.7.9 (default, Dec 10 2014, 12:24:55) [MSC v.1500 32 bit (Intel)] on win
32
Type "copyright", "credits" or "license()" for more information.
>>> ===== RESTART =====
>>>
This code have been created by Farah Kamw for HW#10 for map reduce
-----
('A', 8825)
('B', 1482)
('C', 2277)
('D', 4940)
('E', 13618)
('F', 2003)
('G', 2534)
('H', 7396)
('I', 7543)
('J', 146)
('K', 1159)
('L', 4732)
('M', 2110)
('N', 7026)
('O', 8160)
('P', 1543)
('Q', 212)
('R', 5467)
('S', 6513)
('T', 10727)
('U', 3475)
('V', 836)
('W', 2678)
('X', 152)
('Y', 2265)
('Z', 78)
>>> |
```

Ln: 33 Col: 4

Figure 1



The image shows a screenshot of a Python IDE window titled "HW#10_Char_Count.py - C:\Users\farah_000\Advance Database\HWs\NewHwsFol...". The window has a menu bar with "File", "Edit", "Format", "Run", "Options", "Windows", and "Help". The main text area contains the following Python code:

```
from mapreduce import MapReduce
#-----
AlphaLetters=["A","B","C","D","E","F","G","H","I","J","K","L","M","N","O","P","Q"]
class CharCount(MapReduce):
    def mapper(self, _, line):
        global AlphaLetters;
        for char in line:
            if char not in AlphaLetters:
                continue
            ch=char.upper()
            yield (ch,1)

    def combiner(self, key, values):
        yield key, sum(values)

    def reducer(self, key, values):
        yield key, sum(values)

#-----
#main code
print "This code have been created by Farah Kamw for HW#10 for map reduce"
print "-----"
input = open("alice.txt").readlines()
output = CharCount.run(input)
for item in output:
    print item
```

The status bar at the bottom right indicates "Ln: 22 Col: 74".

Figure 2