

Counting Letters

ICT1002 Programming Fundamentals

In this task, you are going to develop one letter game to count the number of letters for given strings.

Step1: Write one function `letter_count(str)` that take in one word and returns a dictionary with the frequency counts of the various letters. Upper and lower-case characters are considered to be different characters.

Sample execution:

```
>>> letter_count('This')
{'h':1, 'T':1, 'i':1, 's':1}
>>> letter_count('Thisisit')
{'h':1, 'T':1, 'i':3, 's':2, 't':1}
```

Step 2: write one function `double_count(str1,str2)` that takes in two words and returns a dictionary with the frequency counts of the various letters. Upper and lower-case characters are considered to be different characters.

Sample execution:

```
>>> double_count('This', 'isit')
{'h':1, 'T':1, 'i':3, 's':2, 't':1}
```

Step 3: write one function `various_count(*str)` that takes in any number of words and returns a dictionary with the frequency counts of the various letters. Upper and lower-case characters are considered to be different characters.

Sample execution:

```
>>> various_count('This')
{'h':1, 'T':1, 'i':1, 's':1}
>>> various_count('This', 'isit')
{'h':1, 'T':1, 'i':3, 's':2, 't':1}
>>> various_count('This', 'is', 'it')
{'h':1, 'T':1, 'i':3, 's':2, 't':1}
```

HINT: In Python, using “`def func(*str): list1=str`”, `list1` is able to obtain any number of arguments and stores it as a list. You can further get each element from the list and count each word independently. You can implement another function to merge two dictionaries. Below is one example:

```
>>> def str1(* str):
        list=str
        print list

>>> str1('This', 'is', 'so', 'cool')
('This', 'is', 'so', 'cool')
```

Step 4: Write one program to allow users to input different number of words and output each character's frequency.

Some of codes read as follows. Please print your results in the characters' ASCII descending order according to this format.

```
for item in sorted_total:
    print '%s:%d' % (item[0], item[1]),
```

Note that the following running example is in ONE line, and your output should be in ONE line.

Running example:

```
C:\ICT1002\Lab3\CountingLetters>python CountLetters.py
Firefox,is,having,trouble,recovering,your,windows,and,tabs

y:1 x:1 w:2 v:2 u:2 t:2 s:3 r:5 o:5 n:4 l:1 i:5 h:1 g:2 f:1 e:4
d:2 c:1 b:2 a:3 F:1
```