

MODULE 10

Count the total number of occurrences of characters

In the previous module, we count the total number of occurrences of vowels only. Now we will do the same thing for all the alphabets (a-z, A-Z).

Problem

Write a python program to count the number of occurrences of each character (Take a string from the user).

Attacking the Problem

To count the number of occurrences of all alphabets in the given statement, we need to maintain 52 variables. To make it simpler we will assign integers numbers to all the alphabets and take an array of size 52. So that whenever we found a character we will increase the count in corresponding index.

Sample Problem

In this program you will learn how to count 'a' and 'b' in a String. Here one sentence will be assigned of your own choice and then you will get the number of vowels from that String.

```
>>> Sentence = "This turns out to be a very powerful technique for a problem"
>>> a = [0,0]
>>> for i in sentence:
    if i == 'a':
        a[0] = a[0]+1
    elif i == 'e':
        a[1] = a[1]+1
>>> print "No. of occurrences of a and e:\n", "a:",a[0],"\n"."b:",a[1]
```

Output: this will produce:

No. of occurrences of a and b:

a: 1

b: 2

The "for i in sentence" goes through the file one line at a time very quickly, and you simply add up all the times the char occurs in each line. This takes care of any memory problems you might have with large files, but does take longer.

Exercise Problems

1. Write a python program to count the number of occurrences of each character. (Take a string from the user).

The test case for this program:

- i) "The idea to create IIITs in Andhra Pradesh came in April 2007, at the request of the Chief Minister of Andhra Pradesh. He was dissatisfied with the opportunities available to the rural youth and wanted to set up at least three IIITs in the three regions of Andhra Pradesh which would ensure better opportunities for rural students."
2. Write a program to open an existed file and count the total number of occurrences of all characters (case sensitive) in that file.