Southern Luzon State University
College of Engineering
Computer Engineering Department

CPE13 Object Oriented Programming

Activity 4: Character and Strings

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Section: BSCPE 3GF   Score:_____

1.1 Introduction

Array is a collection of similar data type items which are used to store group of data of same data type. Arrays can be of any data type (e.g. string, character, integer and float) and must have constant size. Array index always starts with 0 and uses continuous memory locations to store data in array.

Character can be declared as "char[] charname = new char[]{'a','b','c','d'};". You can manipulate each array data using control statements and perform the same operation of String class.

1.2 Objective

- To use Java programming language to create a program that exhibits different uses of String and Characters.
- To conceptualize the process and manipulate the program
- To distinguish different String class and functions.

1.3 Problem

Write a program that determines the **number of characters** of your **full name** and print the <u>vowels</u> in the <u>left</u> side and the <u>consonant</u> in the <u>right</u> side. Determine also the number of <u>vowels and consonant</u>.
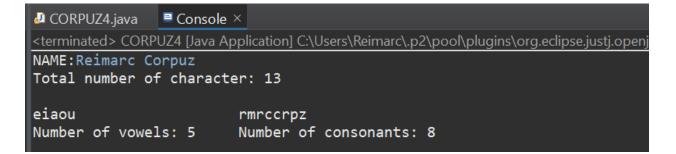Dean Adrian
Ex. Total number of character: 10
    eaaia   dndrn
    Number of vowels: 5   Number of consonants: 5

Output of the Program: Screenshot Only

```
CORPUZ4.java      Console ×
<terminated> CORPUZ4 [Java Application] C:\Users\Reimarc\.p2\pool\plugins\org.eclipse.justj.openj
NAME:Reimarc Corpuz
Total number of character: 13

eiaou                    rmrccrpz
Number of vowels: 5      Number of consonants: 8
```

1.4 Follow up Questions:

1. How do you manipulate the characters?

I manipulated the characters by using the operation of String. Since the given string is in two words, I combined it by replacing the space " ". So, the the character is counting every letters within the string. In my code I just use the command *.replace()* and *.length()* to identify the total number of characters in a given name or String without including the space.

2. How do you determine the vowel and consonant?

First, I invert the characters into lowercase by using .toLowerCase. In getting the vowel I replace all the consonant in the String then display the remaining letters which are the vowels, and then vice versa in getting the consonants. Replacing the letters is the same operation in replacing the space in a String and the remaining characters will print out.

3. How can you count the characters?

I count the number of characters as well as the number of vowels and consonants in a String by using the operation .length(). String_name.length() count every character included in the string. The space is counted as a character. To specify the number of vowel and consonant, simply replace the characters that aren't needed in the String to define only the ones that are needed for the problem.

1.5 Conclusion

After creating my code and since I know that the String is a combination of characters, I concluded that It is easy to understand the list of characters by manipula-ting it in a String class. Remember that the contents of the array is a characters or a numbers and even a space and those combinations can form a String. In a single cell of an array there is only one character. So, I also concluded that if I am going to determine every character if it is a vowel, so I need to simulate it one by one or in every cell of an array. Like for example, I have two words. The length of it is not 2, but the total number of letters within those two words. Given a two words are not only in the two cells of the array.

Code of the Program:

Attach java file.

Code of the Program

```java
import java.util.Scanner;
public class CORPUZ4 {
        public static void main (String args[])
        {
                Scanner input = new Scanner (System.in);
                System.out.print("NAME:");
                String name = input.nextLine();

                System.out.print("Total number of character: " + name.replace(" ", "").length() + "\n\n");

                name = name.toLowerCase();
                vowels (name);

                /*
                String vowel = name.replaceAll("(?i)[^aeiou]", "");
                String consonant = name.replaceAll("(?i)[aeiou]", "");
                System.out.print(vowel + "\t\t\t" + consonant.replace(" ", ""));

                System.out.print("\nNumber of vowels: " + vowel.length() + "\tNumber of consonants: "
        + consonant.replace(" ", "").length());
                */

        }

        private static void vowels(String name) {
                // TODO Auto-generated method stub
                int VCount = 0, CCount= 0;
                for (int i = 0; i <= name.replace(" ", "").length(); i++)
                {
                        if (name.charAt(i) == 'a' || name.charAt(i) == 'e' || name.charAt(i) == 'i' ||
        name.charAt(i) == 'o' || name.charAt(i) == 'u')
                        {
                                System.out.print(name.charAt(i));
                                VCount++;
                        }
                        else if (name.charAt(i) >= 'a' && name.charAt(i) <='z')
                        {
                                CCount++;
                        }
                }
                String consonant = name.replaceAll("(?i)[aeiou]", "");
                System.out.print("\t\t\t" + consonant.replace(" ", ""));

                System.out.print("\nNumber of vowels: " + VCount);
        System.out.print("\tNumber of consonants: " + CCount);
        }
}
```

Java File

File attached in my class work