COAL LAB MANUAL

**Submitted to:**

Dr. Tauqir

Teacher assistant : Sir Shahzad

**Submitted By:**

Hamza Farooq

Registeration no : 2016-CS-122

**Section:**

Section B

**Department:**

Department of Computer Science

**Institute:**

University of Engineering and Technology Lahore (Main Campus)



**Date of Submission:** March 29, 2018

**COAL Lab 6**

**Vowels Detection in a String**

**Description**

In this lab we will learn about

* Iterating through a string
* Incrementing an initialized variable

**Revision:** Lab 3 (Display two digit number)

**Lab Work**  
Write an assembly language program Iterates through an input string and display

* Each vowel on a newline
* Total count of vowels in two digits

**Code Parts**

* Comparison of current character of input string with all vowels
* Comparison of current character of input string with ‘$’ end string character.
* Use **LengthOf** assembly instruction to get the number of iterations of for loop.

**Program**

.MODEL SMALL

.data

STR1 DB 'AEIOUAEIOUAEIODJAGFVBFXCMUABCDEF $'

vov\_count db 0

count db 0

.code

mov ax, @data

mov ds, ax

LEA bx, STR1

Start:

mov al, [bx]

Compare:

cmp al, 'A'

je disp

cmp al, 'E'

je disp

cmp al, 'I'

je disp

cmp al, 'O'

je disp

cmp al, 'U'

je disp

cmp al, '$'

je Exit

inc bx

jmp Start

disp:

mov cl, al

mov ah, 2

mov dl, 0Ah

INT 21h

mov dl, 0Dh

INT 21h

mov dl, cl

mov ah, 2

int 21h

inc bx

inc vov\_count

jmp Start

Exit:

mov ax, 0

mov al, vov\_count

mov bl, 10

div bl

mov bh, ah

mov bl, al

mov ah, 2

mov dl, 0Ah

INT 21h

mov dl, 0Dh

INT 21h

mov dl,bl

add dl, 30h

mov ah, 2

int 21h

mov dl,bh

add dl, 30h

mov ah, 2

int 21h

.exit

ret