KHULNA UNIVERSITY OF ENGINEERING AND TECHNOLOGY, KUET

SESSIONAL REPORT

Course No: CSE 2204

Department of: Computer Science and Engineering

Experiment No: **07**

Name of the Experiment: Developing a program that checks whether two strings are equal or not in assembly languge

Remarks

Date of Performance: 28.04.21

Date of Submission: 19.05l.21

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Year: 2nd

Semester: 2nd

No. of experiment: 07

Name of experiment: Developing a program that performs checking two strings are equal or not in assembly language.

Objectives:

1. To obtain how to use strings in assembly language.
2. To develop our logic how to compare two string
3. To use loop properly to perform this experiment successfully.

Introduction: A string is a datatype used in program consists of various characters, integer and floating points as a word or sentence. The string is terminated with '$'. So from this, we can get the length of the string by subtracting $ - string's offset.

In order to compare two strings, if the length of two strings are not same then, simply check it and then show the result that they are not same. If two strings have same size, then we should check each character by character and finally find out that two strings are equal or not.

Apparatus Required: emu 8086, laptop.

Methodology:

Code:

```
org 100h
lea si, str1 ; Store the address of the string 'str1' in
                SI
lea, di, str2 ; store the address of 'str2' in di
mov al, len1 ; store the size of string 'str1' in al
mov bh, ah len2; store the size of 'str2'
cmp al, ah
jne not_equal; if two strings are not equal then
```

```
                    jump to 'end_equal'

mov cx, len1 ; If they are in same length then
                    Check byte to byte and store
                    the length to cx

cld ; increment SI and DI autometically by 1.

repe cmpsb ; If string bytes are same then
                    repeat comparison.

jne not_equal ; if two string byte are not
                    same then go to 'not_equal'

mov res, 'y' ; if two strings are same then
                    move 'y' to veriable 'res'

ret

not_equal: mov res, 'n' ; if two strings are
           ret                not same, then 'n'
                              is assigned to variable
                              res.

str1 db 'Kuet CSE'
str2 db 'Kuet CSE'
len1 equ ($ - str1)  ; length of string 1
len2 equ ($ - str2)  ; length of str2.
res dw ?
```

Result and Discussion: From this experiment, we got introduced with string. So this experiment was very basic experiment. Here we tried to compare with two strings that they are equal or not. In this experiment, we learnt the use of variable. In the experiment, we used different strings and everytime we got expected result. So decision could be made easily, that the experiment works well.

Conclusion: This experiment was necessary for getting knowledge about strings and how it works we tried to develop our logic to perform comparison of two strings. After this experiment we can eventually say that, we learnt programming in assembly language efficiently. and every basic topics of assembly language programming.

References:

1. Microprocessor and Interfacing - by D.V. Hall
2. emu 8086/documentation/index.html.