

UITM

UNIVERSITY OF INFORMATION
TECHNOLOGY AND SCIENCES

Assignment on

Lab Report- 05

Course Title

Microprocessor and MicroControllers

Course Code

CSE 360

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Problem No: 01

Experiment No: 01

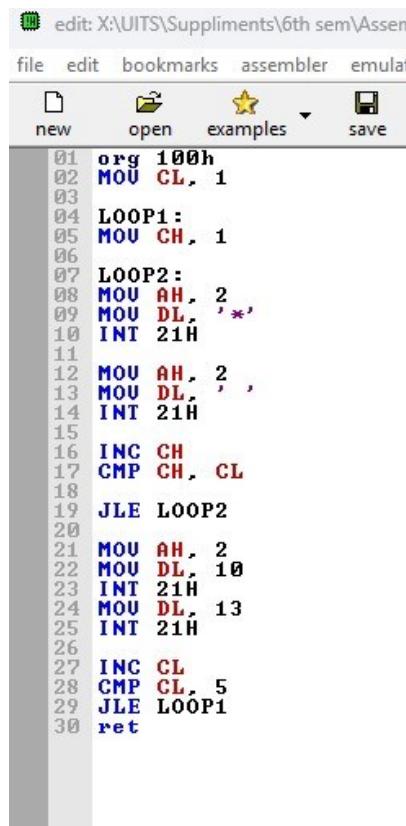
Experiment Name: Write an assembly language program to print an array of characters and an array of strings

Process:

Set registers to point to the array's beginning. To access each character in the character array and load it into the corresponding register, utilize a loop or direct offset. The address of each string in the string array should be loaded into the register using a loop or direct offsets. To display every character or string on the screen, use the int 21h function 09h.

For the string array, print a new line after every string. Continue doing this until every character or string in the array has been shown.

Implementation:

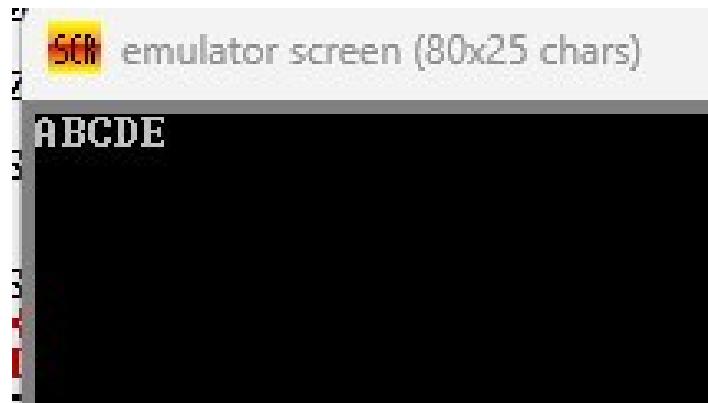


The screenshot shows a Microsoft Notepad window with assembly code. The menu bar includes 'file', 'edit', 'bookmarks', 'assembler', and 'emulator'. The toolbar includes 'new', 'open', 'examples', and 'save'. The code is as follows:

```
01 org 100h
02 MOU CL, 1
03
04 LOOP1:
05 MOU CH, 1
06
07 LOOP2:
08 MOU AH, 2
09 MOU DL, *,*
10 INT 21H
11
12 MOU AH, 2
13 MOU DL, *
14 INT 21H
15
16 INC CH
17 CMP CH, CL
18
19 JLE LOOP2
20
21 MOU AH, 2
22 MOU DL, 10
23 INT 21H
24 MOU DL, 13
25 INT 21H
26
27 INC CL
28 CMP CL, 5
29 JLE LOOP1
30 ret
```

Result:

The application displays every character array element on the screen. Every string in the string array is printed on a separate line by the application.



Conclusion:

Both a string array and a character array are successfully printed on the screen by the applications. They explain how to read and display individual characters and strings in a sequential manner using registers, memory addressing, and the int 21h output function in 8086 assembly language.

Problem No: 02

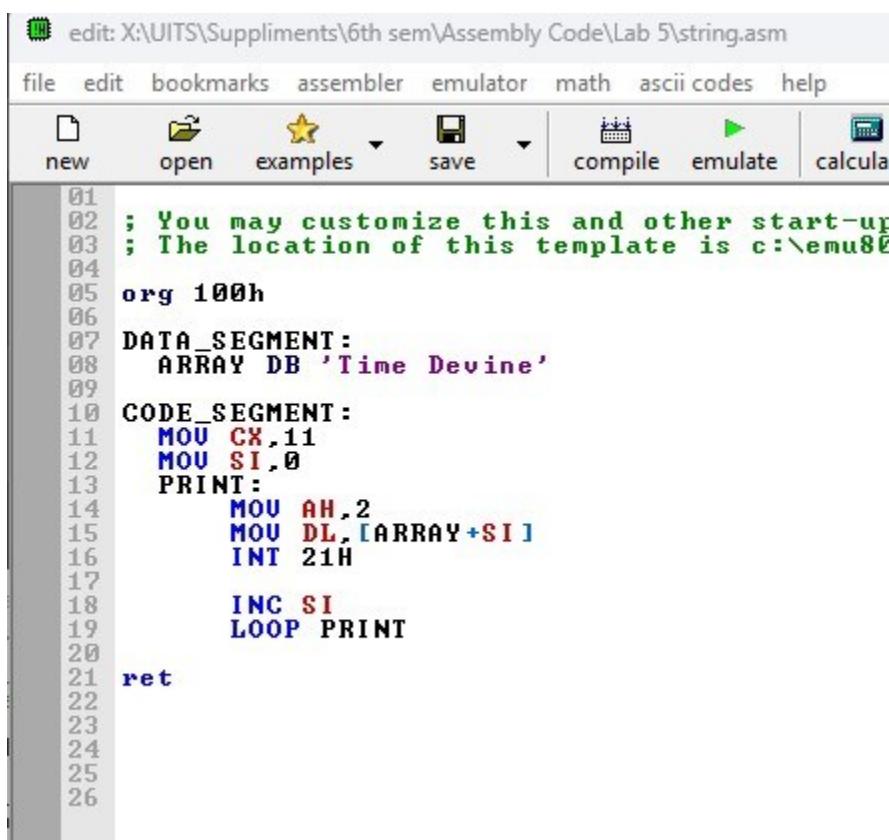
Experiment No: 02

Experiment Name: Write an assembly language program to print an array of characters and an array of strings

Process:

Set up registers to point to the array's beginning. To access each character in the character array and load it into the corresponding register, utilize a loop or direct offset. The address of each string in the string array should be loaded into the register using a loop or direct offsets. To show each character or string on the screen, use the int 21h function 09h. For the string array, print a new line after every string. Continue doing this until every character or string in the array has been shown.

Implementation:

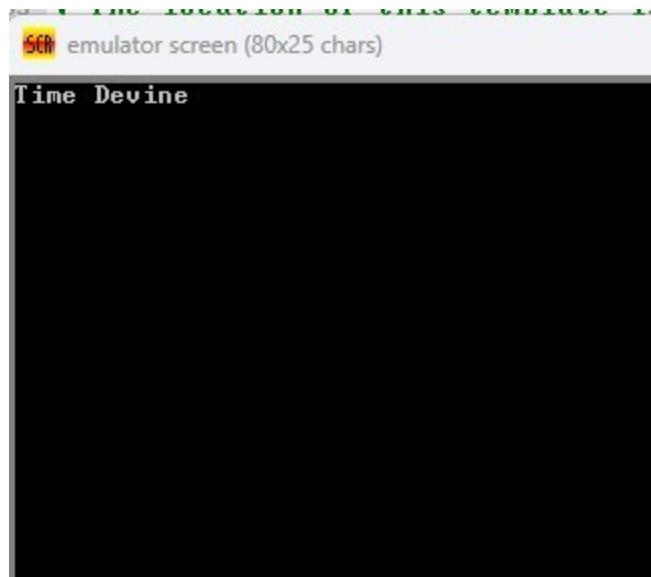


The screenshot shows a Windows Notepad window with the following assembly code:

```
01 ; You may customize this and other start-up
02 ; The location of this template is c:\emu8086\start.asm
03
04
05 org 100h
06
07 DATA SEGMENT
08 ARRAY DB 'Time Devine'
09
10 CODE SEGMENT
11 MOU CX,11
12 MOU SI,0
13 PRINT:
14     MOU AH,2
15     MOU DL,[ARRAY+SI]
16     INT 21H
17
18     INC SI
19     LOOP PRINT
20
21 ret
22
23
24
25
26
```

Result:

Every character array element is printed on the screen by the application. Every string in the string array is printed on a separate line by the application.



Conclusion:

Both a string array and a character array are successfully printed on the screen by the applications. They explain how to read and display individual characters and strings in a sequential manner using registers, memory addressing, and the int 21h output function in 8086 assembly language.