



"Heaven's light is our guide"

Rajshahi University of Engineering & Technology

*Department of
Computer Science & Engineering*

Course No: CSE 3110

Course Title: Microprocessors and Assembly Language Sessional

Lab Report (Lab 1)

Submitted By:

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Class: 3rd year (Odd Semester)

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Date of Experiment: 19th January, 2021

Date of Submission: 25th January, 2021

EXPERIMENT NO: 01

NAME OF THE EXPERIMENT:

Case Conversion of Three Initials of a Person's Name.

OBJECTIVES:

Writing an assembly program to

- Prompt the user for three characters input
- Read those characters
- Display them down the left margin
- Convert case from uppercase to lowercase

CODE:

```

1. .MODEL SMALL
2. .STACK 100H
3. .DATA
4.
5.     CR EQU 0DH
6.     LF EQU 0AH
7.
8. MSG1 DB 'ENTER THREE INITIALS OF YOUR NAME: $' ;user prompt message
9. MSG2 DB 0DH, 0AH, 'INITIALS OF NAME IN LOWERCASE: $' ;output message
10.     MSG3 DB 0DH, 0AH, '$' ;new line string
11.
12.
13.
14.     .CODE
15.     MAIN PROC
16.
17.         ;initialize DS
18.         MOV AX, @DATA ;get data segment
19.         MOV DS, AX ;initialize DS
20.
21.         ;print user prompt
22.         LEA DX, MSG1 ;get first message
23.         MOV AH, 9 ;display string function
24.         INT 21H ;display string
25.
26.         ;input and store characters
27.         MOV AH, 1 ;read character function
28.         INT 21H ;read first initial
29.         ADD AL, 20H ;convert it to lowercase
30.         MOV BL, AL ;store it to BL
31.
32.

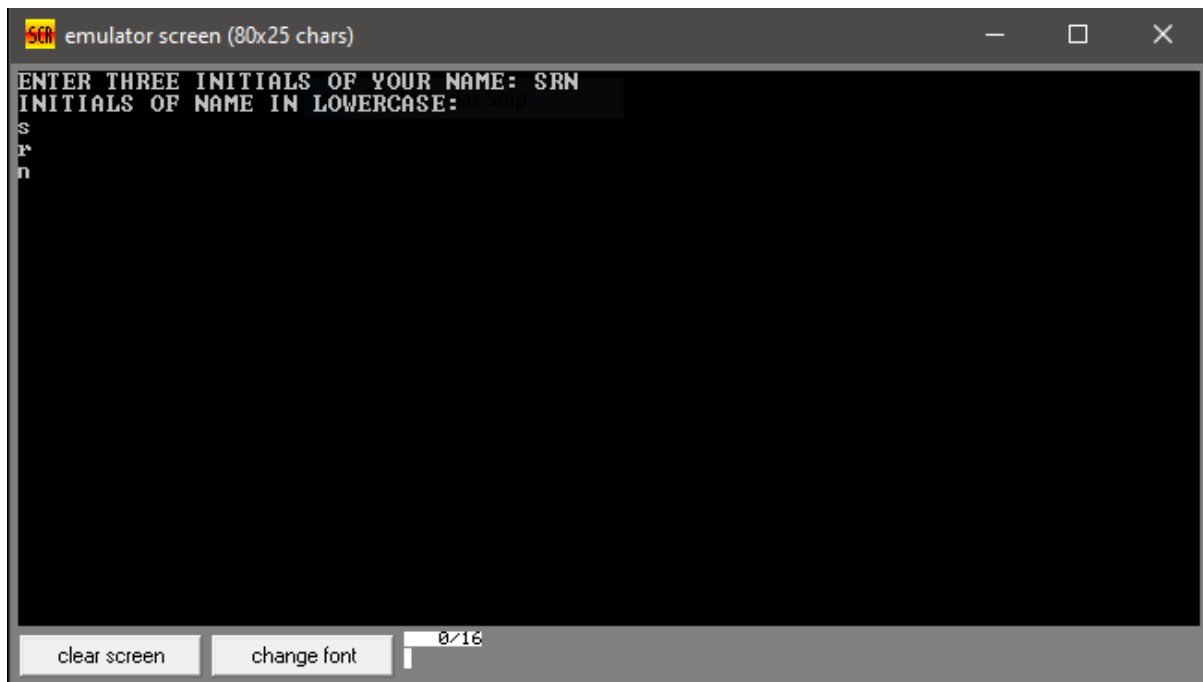
```

```

33.      MOV AH, 1           ;read chatacter function
34.      INT 21H           ;read second initial
35.      ADD AL, 20H        ;convert it to lowercase
36.      MOV BH, AL        ;store it to BH
37.
38.      MOV AH, 1           ;read chatacter function
39.      INT 21H           ;read third initial
40.      ADD AL, 20H        ;convert it to lowercase
41.      MOV CL, AL        ;store it to CL
42.
43.      ;print the initials
44.      LEA DX, MSG2       ;get output message
45.      MOV AH, 9          ;displaying string function
46.      INT 21H           ;diplaying string
47.
48.      LEA DX, MSG3       ;get newline
49.      MOV AH, 9          ;display string function
50.      INT 21H           ;display new line
51.
52.      MOV AH, 2          ;read character function
53.      MOV DL, BL        ;display the first initial
54.      INT 21H
55.
56.      LEA DX, MSG3       ;get newline
57.      MOV AH, 9          ;display string function
58.      INT 21H           ;display new line
59.
60.      MOV AH, 2          ;read character function
61.      MOV DL, BH        ;display the second initial
62.      INT 21H
63.
64.      LEA DX, MSG3       ;get newline
65.      MOV AH, 9          ;display string function
66.      INT 21H           ;display new line
67.
68.      MOV AH, 2          ;read character function
69.      MOV DL, CL        ;display the third initial
70.      INT 21H
71.
72.
73.      ;DOS exit
74.      MOV AH, 4CH
75.      INT 21H
76.
77.      MAIN ENDP
78.      END MAIN

```

OUTPUT:



```
emulator screen (80x25 chars)
ENTER THREE INITIALS OF YOUR NAME: SRN
INITIALS OF NAME IN LOWERCASE:
s
r
n
```

The screenshot shows a terminal window titled "emulator screen (80x25 chars)". The prompt "ENTER THREE INITIALS OF YOUR NAME: SRN" is displayed. Below it, the text "INITIALS OF NAME IN LOWERCASE:" is shown. The user has entered the initials "s", "r", and "n" on three separate lines. At the bottom of the window, there are buttons for "clear screen" and "change font", and a status bar showing "0/16".

DISCUSSION:

In this program, the data segment consists of three messages. A message for user prompt, another for output and the other one is newline. The code segment first shows the messages to user and prompt the user three characters which are the initials of a person's name. Then each character is converted into lowercase and stored in 8-bit registers. After that the characters are displayed with a carriage return and line feed which is to execute a newline between them. So that they are printed in left margin.