Rajshahi University of Engineering & Technology

Course No.: CSE 3110
Course Title: Sessional Based on CSE 3109

Submitted To:

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Problem No: 1

Problem Description:

Write an assembly program to add two numbers where inputs will be taken from the user and output will be shown in a new line.

Theory:

Registers used:

i) Accumulator (AX): For arithmetic and logical instructions.
ii) Base (BX): To hold the address of data.
iii) Data (DX): To hold data for output.

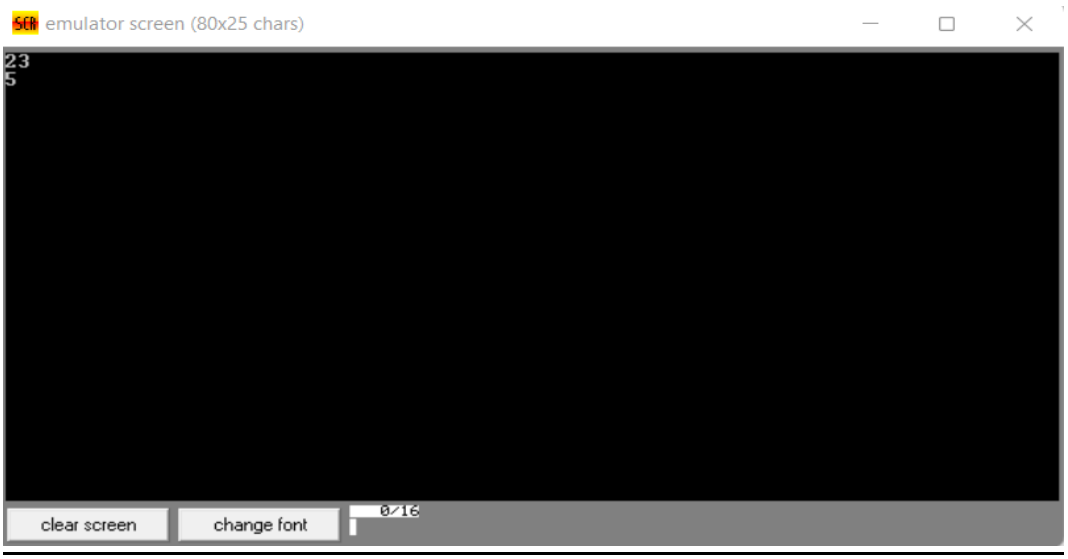
Instructions used:

i) MOV
ii) ADD
iii) SUB

Source Code:

```
.model small
.stack 100h
.data
.code
main proc

    mov ah, 1
    int 21h
    mov bl, al

    mov ah, 1
    int 21h

    add bl, al
    sub bl, 48

    mov ah, 2
    mov dl, 0dh
    int 21h
    mov dl, 0ah
    int 21h

    mov dl, bl
    mov ah, 2
    int 21h

    mov ah, 4ch
    int 21h

main endp
end main
```

Output:



Discussion:

Here ‘add’ instruction was used to add two numbers. Then ‘sub’ was used to subtract 48 from the added value. It was because the inputs were taken as string. 0 was taken as 48 and 9 as 57 in ASCII. So, to get the real value, 48 was subtracted from the value.