EXPERIMENT NO- 5

AIM: WAP based on string instruction to transfer a block and to find string length.

Resource Required: P-IV and above RAM 128MB, Dot Matrix Printer, Emu 8086, MASM 611/ TASM, Turbo C/C++, Printer, Printout Stationary.

THEORY:

String Instructions:

String is a group of bytes/words and their memory is always allocated in a sequential order.

Following is the list of instructions under this group −

1. REP − Used to repeat the given instruction till CX ≠ 0.
2. MOVS/MOVSB/MOVSW − Used to move the byte/word from one string to another.
3. COMS/COMPSB/COMPSW − Used to compare two string bytes/words.
4. SCAS/SCASB/SCASW − Used to scan a string and compare its byte with a byte in AL or string word with a word in AX.
5. LODS/LODSB/LODSW − Used to store the string byte into AL or string word into AX.

ALGORITHM:

a) To transfer a block of data (non-overlapping block)

Step I : Initialize the data in the source and destination memory

Step II : Initialize SI and DI with source and destination address

Step III : Initialize CX with count

Step IV : Initialize DF flag to zero

Step V : Transfer the data byte from source to destination

Step VI : Repeat above step till CX!=0

Step VII : Display the result.

Step VIII : Stop.

b) To find the length of String

Step I : Initialize the data segment

Step II : Initialize the len variable to 0

Step III : Point the starting element of the list by SI register

Step IV : Compare [si] with '$'

Step V : If equal go to VIII step else step V

Step VI : Increment len

Step VII : Increment SI

Step VIII : Display the length

Step IX End

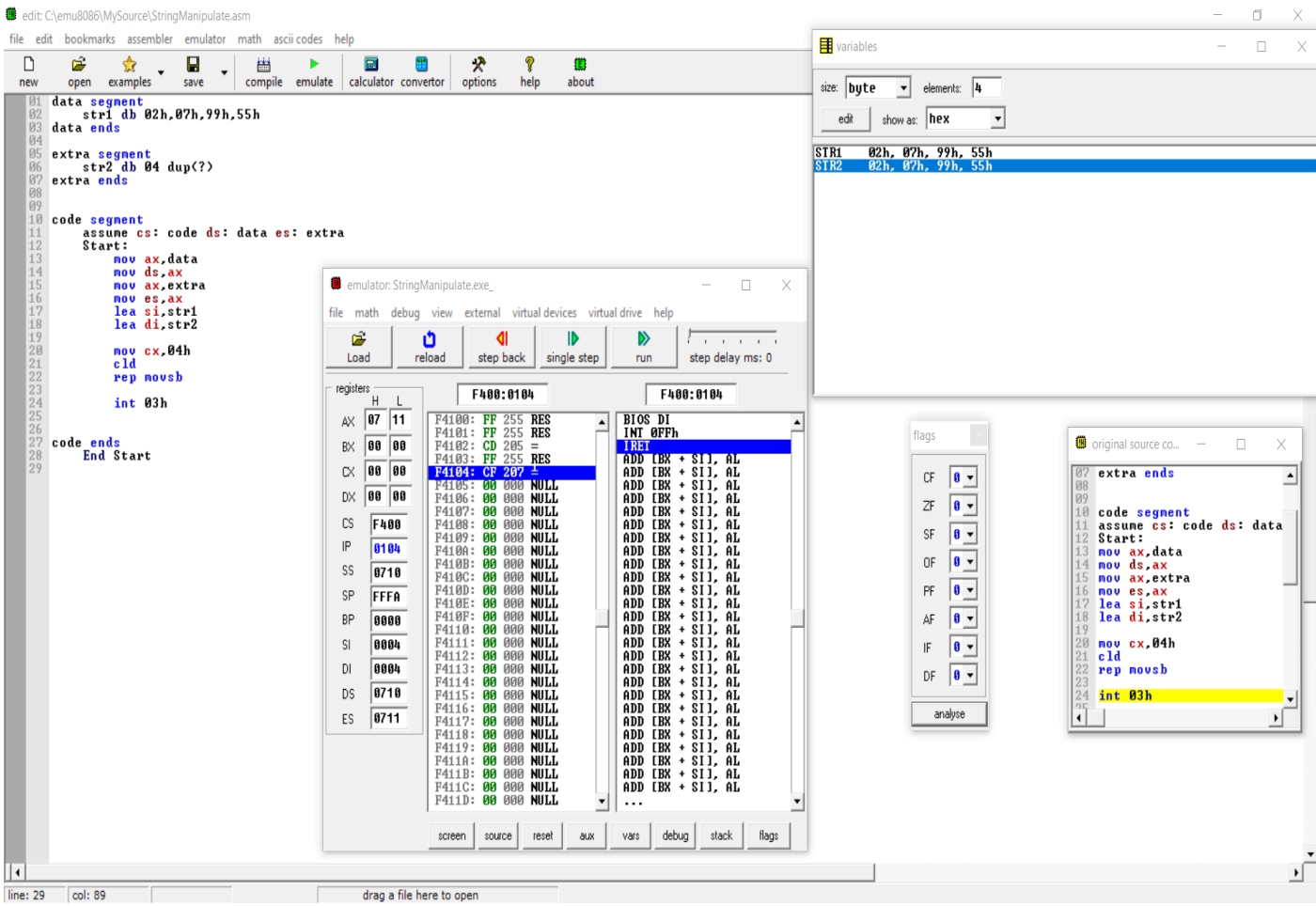
<u>CONCLUSION</u>: We have successfully a)Transfer data from one block to another

b)Calculated length of a string

in Assembly Language using EMU8086.

<u>Code and Output</u>:

a)<u>Transferring block of data</u>:



b) String Length: