MP & MC Lab

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S6 CSE
Roll no: 5

Exp-5

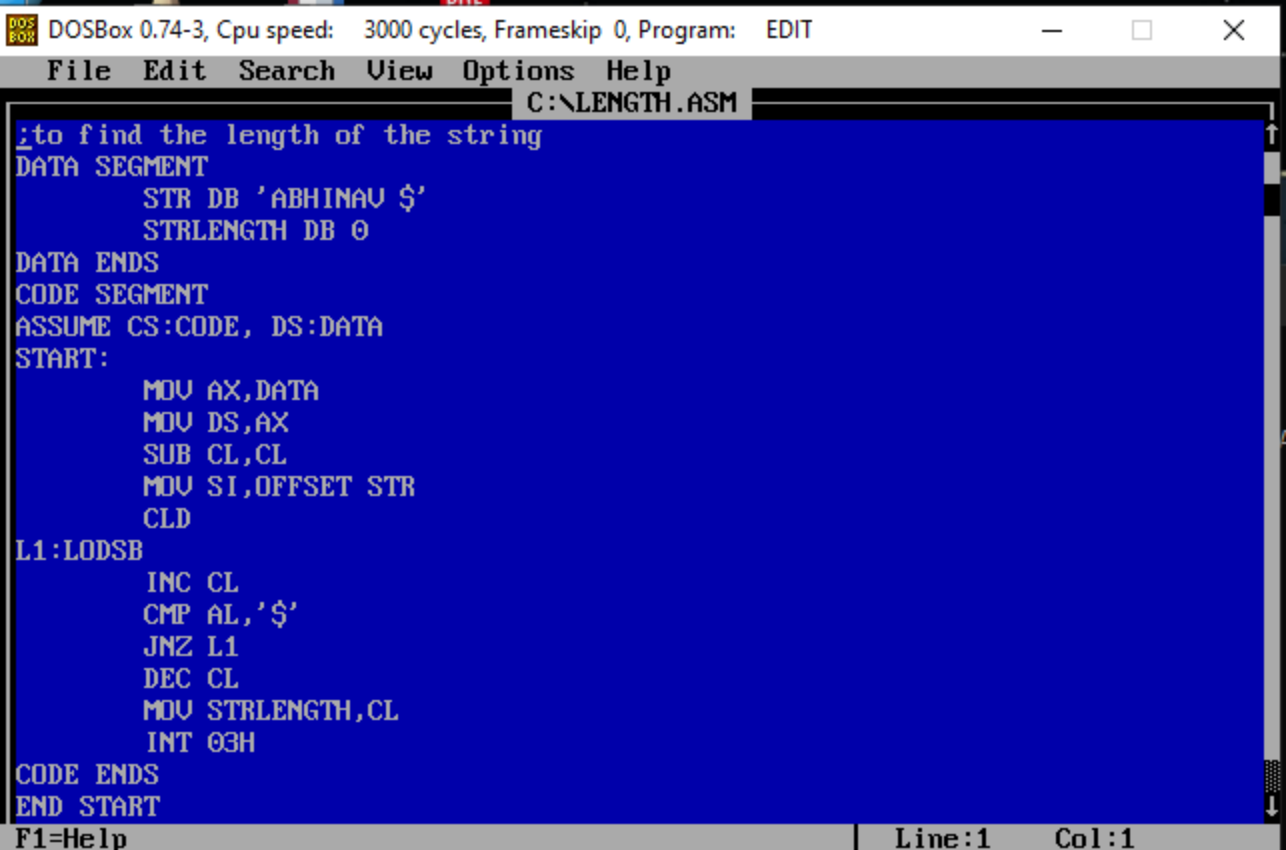
Aim:- Write an assembly language program to find the length of the given string

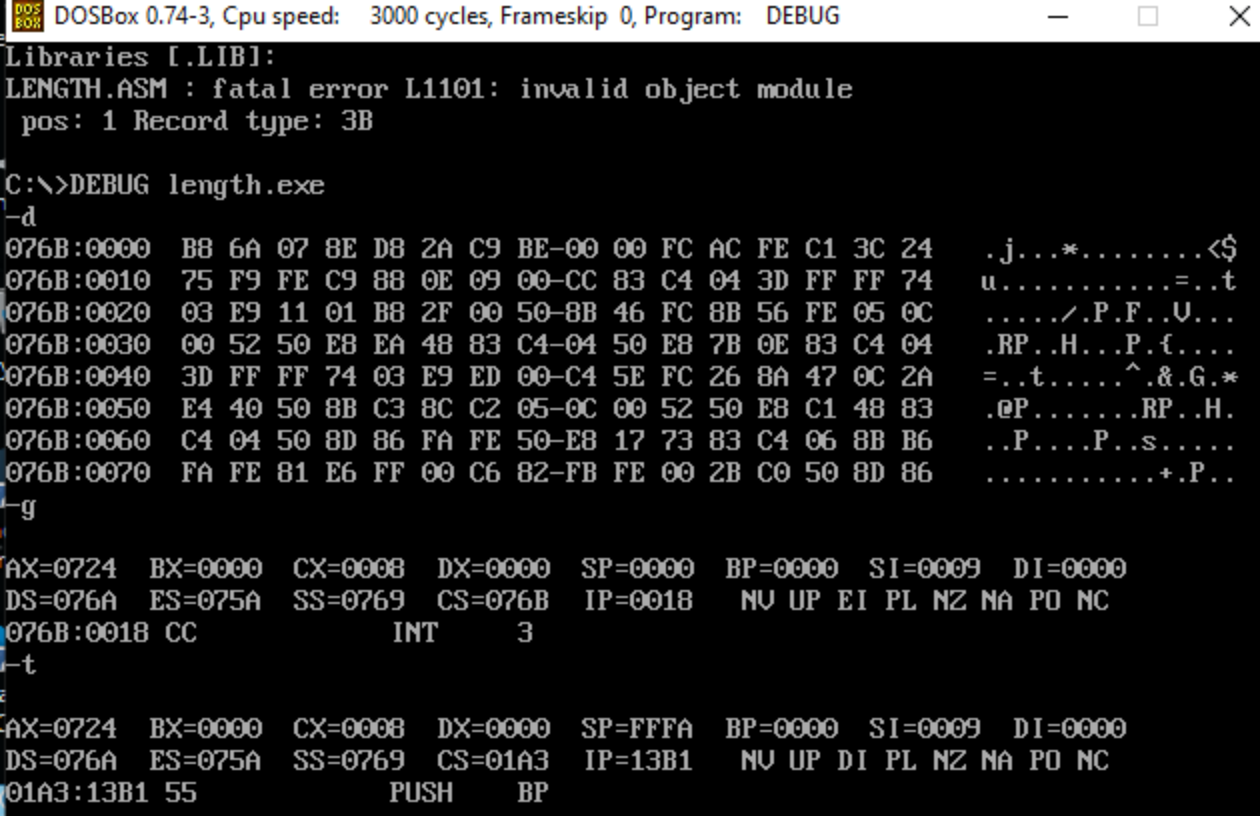
Algorithm

1) Initialize the data segment
2) Initialize the counter CL with 0
3) Move the starting address of the string to SI register
4) Move each character from memory to AL
5) Compare AL with last character of string
   Increment CL until ZF=0
6) Store the result in len
7) Stop

Program

```
DATA SEGMENT
    str db 'Abhinav$'
    str length db 0
DATA ends
Code segment
Assume CS:Code, DS:data
start:
    MOV AX, DATA
    MOV DX, AX
    SUB CL, CL
    MOV SI, OFFSET str
    CLD
L1: LODSB
        INC CL
        CMP AL, '$'
        JNZ L1
        DEC CL
        MOV STRLENGTH, CL
CODE ENDS
END START
```


DOSBox 0.74-3, Cpu speed: 3000 cycles, Frameskip 0, Program: EDIT
File Edit Search View Options Help
C:\LENGTH.ASM
;to find the length of the string
DATA SEGMENT
STR DB 'ABHINAV $'
STRLENGTH DB 0
DATA ENDS
CODE SEGMENT
ASSUME CS:CODE, DS:DATA
START:
MOV AX,DATA
MOV DS,AX
SUB CL,CL
MOV SI,OFFSET STR
CLD
L1:LODSB
INC CL
CMP AL,'$'
JNZ L1
DEC CL
MOV STRLENGTH,CL
INT 03H
CODE ENDS
END START
F1=Help
Line:1 Col:1


DOSBox 0.74-3, Cpu speed: 3000 cycles, Frameskip 0, Program: DEBUG
Libraries [.LIB]:
LENGTH.ASM : fatal error L1101: invalid object module
pos: 1 Record type: 3B
C:\>DEBUG length.exe
-d
076B:0000 B8 6A 07 8E D8 2A C9 BE-00 00 FC AC FE C1 3C 24 .j...*.....<$
076B:0010 75 F9 FE C9 88 0E 09 00-CC 83 C4 04 3D FF FF 74 u.....=..t
076B:0020 03 E9 11 01 B8 2F 00 50-8B 46 FC 8B 56 FE 05 0C ...../.P.F..V...
076B:0030 00 52 50 E8 EA 48 83 C4-04 50 E8 7B 0E 83 C4 04 .RP..H...P.{....
076B:0040 3D FF FF 74 03 E9 ED 00-C4 5E FC 26 8A 47 0C 2A =..t.....^.&.G.*
076B:0050 E4 40 50 8B C3 8C C2 05-0C 00 52 50 E8 C1 48 83 .@P.....RP..H.
076B:0060 C4 04 50 8D 86 FA FE 50-E8 17 73 83 C4 06 8B B6 ..P....P..s.....
076B:0070 FA FE 81 E6 FF 00 C6 82-FB FE 00 2B C0 50 8D 86 .....+.P..
-g
AX=0724 BX=0000 CX=0008 DX=0000 SP=0000 BP=0000 SI=0009 DI=0000
DS=076A ES=075A SS=0769 CS=076B IP=0018 NV UP EI PL NZ NA PO NC
076B:0018 CC INT 3
-t
AX=0724 BX=0000 CX=0008 DX=0000 SP=FFFA BP=0000 SI=0009 DI=0000
DS=076A ES=075A SS=0769 CS=01A3 IP=13B1 NV UP DI PL NZ NA PO NC
01A3:13B1 55 PUSH BP