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**BRANCH :-** Comps -B.     **BRANCH:** B.

**EXPERIMENT 4:** To count number of letters in a string and to reverse the string.

**SUBJECT :-** CAO (COMPUTER ARCHITECTURE AND ORGANIZATION)

**TOPIC 1 :-** TO COUNT NUMBER OF LETTERS IN A STRING.

**CODE :-**

```
data segment
str1 db"MANISH","$"
data ends
code segment
assume cs:code,ds:data
start:
mov ax, data
mov ds,ax
mov cx, 00h
lea si,str1
mov dl,"$"
cld
abc:
mov bl,[si]
add si,01h
add cx, 01h
cmp bl, dl
jnz abc
sub cl,01h
mov dl,cl
add dl,30h
mov ah,02h
int 21h
mov ah,4ch
int 21h
code ends
end start
```

**OUTPUT :-**

```

DOSBox 0.74, Cpu speed: 3000 cycles, Frameskip 0, Program: DEBUG

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The DOSBox Team http://www.dosbox.com

Z:\>SET BLASTER=A220 I7 D1 H5 T6

Z:\>mount c /
Mounting / is NOT recommended. Please mount a (sub)directory next time.
Drive C is mounted as local directory /

Z:\>c:

C:\>cd home

C:\HOME>cd students

C:\HOME\STUDENTS>cd manish

C:\HOME\STUDENTS\MANISH>cd 8086

C:\HOME\STUDENTS\MANISH\8086>debug exp4.exe
-g
-6
M Program terminated normally

```

**TOPIC 2 :-TO REVERSE THE STRING.****CODE :-**

```

data segment
str1 db "MANISH", "$"
len equ $-str1
temp db 10 dup(0)
data ends

code segment
assume cs:code, ds:data
start:
mov ax, data
mov ds, ax
mov es, ax
mov si, offset str1
mov di, offset temp+(len-1)
mov cx, len
up:
cld
lodsb

```

```
std
stosb
loop up
mov ah,4ch
int 21h
code ends
end start
```

**OUTPUT :-**

```
DOSBox 0.74, Cpu speed: 3000 cycles, Frameskip 0, Program: DEBUG

C:\HOME\STUDENTS>cd manish
C:\HOME\STUDENTS\MANISH>cd 8086
C:\HOME\STUDENTS\MANISH\8086>debug exp4.exe
-g
6
Program terminated normally
-q
C:\HOME\STUDENTS\MANISH\8086>debug exp4b.exe
-g
Program terminated normally
-d 076A:0000
076A:0000  4D 41 4E 49 53 48 24 24-48 53 49 4E 41 4D 00 00  MANISH$$HSINAM..
076A:0010  00 00 00 00 00 00 00 00-00 00 00 00 00 00 00 00  .....
076A:0020  BB 6A 07 8E D8 8E C0 BE-00 00 BF 0D 00 B9 07 00  .j.....
076A:0030  FC AC FD AA E2 FA B4 4C-CD 21 21 00 00 00 00 00  .....L.?!.....
076A:0040  00 00 00 00 00 00 00 00-00 00 00 00 00 00 00  .....
076A:0050  00 00 00 00 00 00 00 00-00 00 00 00 00 00 00  .....
076A:0060  00 00 00 00 00 00 00 00-00 00 00 00 00 00 00  .....
076A:0070  00 00 00 00 00 00 00 00-00 00 00 00 00 00 00  .....
```