

NAME :- Manish Shashikant Jadhav

UID :- 2023301005.

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

EXPERIMENT 3: Implement various String Operations in 8086 through the utilities provided by DOS interrupts (MASM).

SUBJECT :- CAO (COMPUTER ARCHITECTURE AND ORGANIZATION)

TOPIC 1 :- IF STRINGS ARE NOT EQUAL.

CODE :-

data segment

str1 db "coalab", "\$"

str3 db "The provided strings are Equal", "\$"

str4 db "The provided strings are Not Equal", "\$"

data ends

extra segment

str2 db "caolab", "\$"

extra ends

code segment

assume cs:code, ds:data, es:extra

start:

mov ax, data

mov ds, ax

mov ax, extra

mov es, ax

mov di, ax

lea si, str1

lea di, str2

mov cx, 06h

cld

repe cmpsb

jnz notequal

lea dx, str3

mov ah, 09

int 21h

jmp terminate

notequal:

lea dx, str4

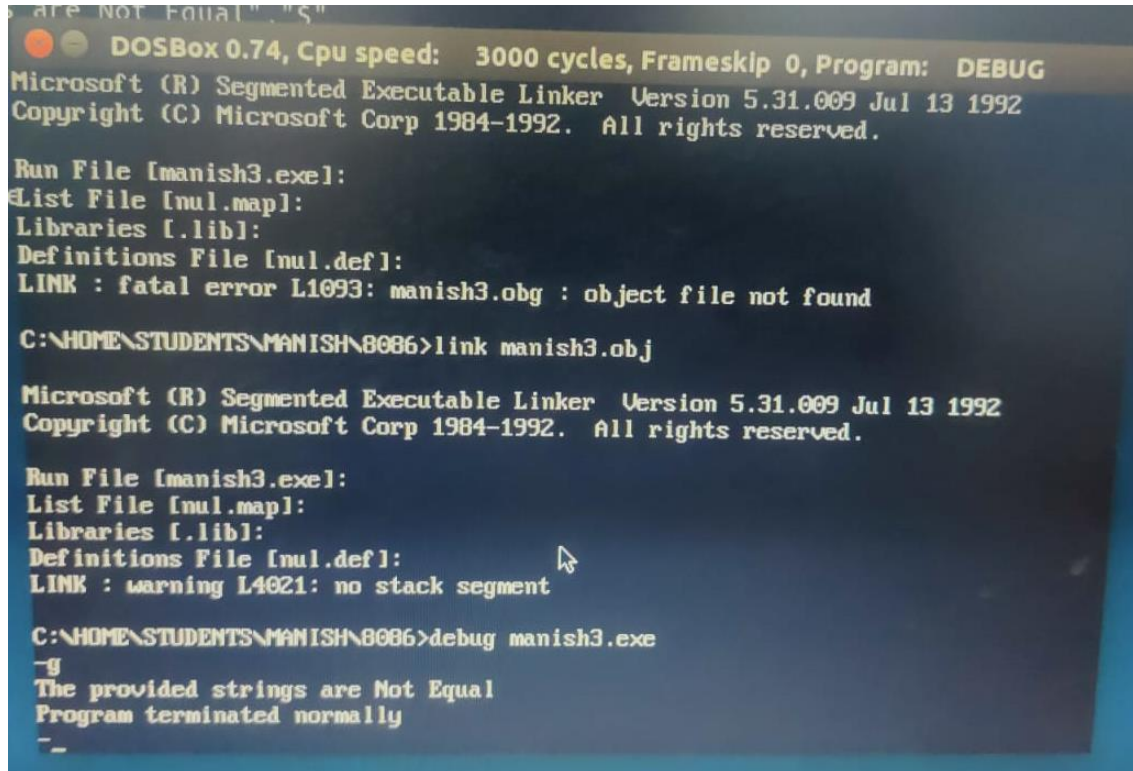
mov ah, 09

int 21h

terminate:

```
mov ah,4ch
int 21h
code ends
end start
```

OUTPUT :-



```
are NOT Equal". "$"
DOSBox 0.74, Cpu speed: 3000 cycles, Frameskip 0, Program: DEBUG
Microsoft (R) Segmented Executable Linker Version 5.31.009 Jul 13 1992
Copyright (C) Microsoft Corp 1984-1992. All rights reserved.

Run File [manish3.exe]:
List File [nul.map]:
Libraries [.lib]:
Definitions File [nul.def]:
LINK : fatal error L1093: manish3.obj : object file not found

C:\HOME\STUDENTS\MANISH\8086>link manish3.obj

Microsoft (R) Segmented Executable Linker Version 5.31.009 Jul 13 1992
Copyright (C) Microsoft Corp 1984-1992. All rights reserved.

Run File [manish3.exe]:
List File [nul.map]:
Libraries [.lib]:
Definitions File [nul.def]:
LINK : warning L4021: no stack segment

C:\HOME\STUDENTS\MANISH\8086>debug manish3.exe
-g
The provided strings are Not Equal
Program terminated normally
-
```

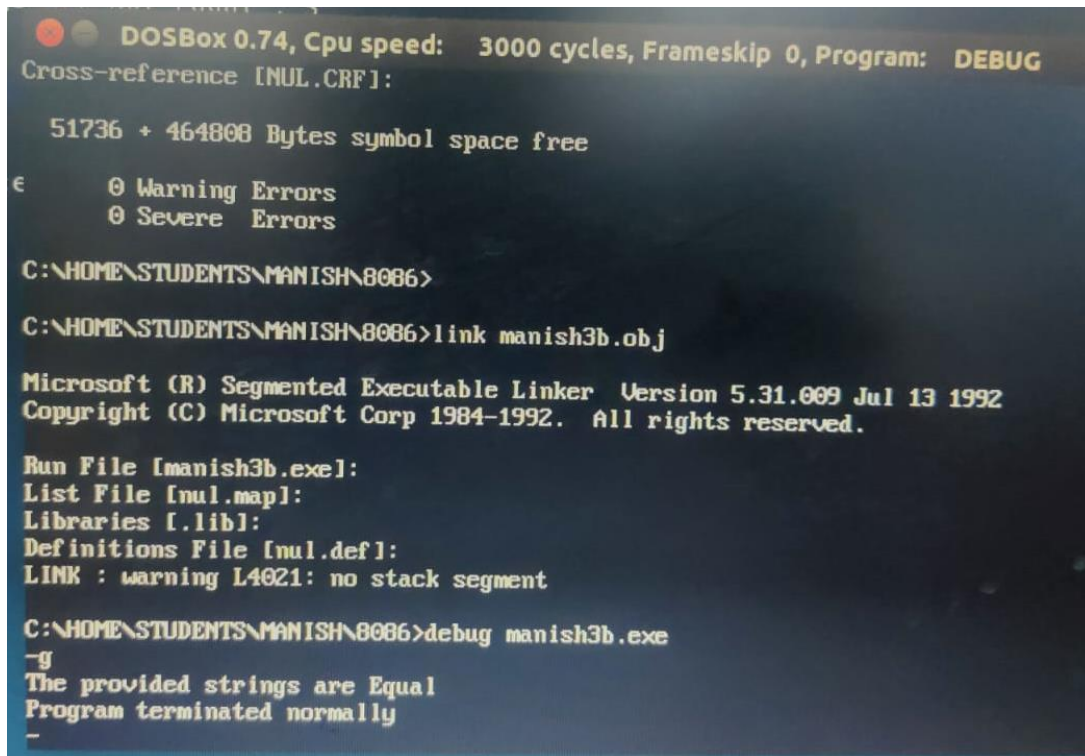
TOPIC 2 :- IF STRINGS ARE EQUAL.**CODE :-**

```
data segment
str1 db "coalab","$"
str3 db "The provided strings are Equal","$"
str4 db "The provided strings are Not Equal","$"
data ends

extra segment
str2 db "coalab","$"
extra ends

code segment
assume cs:code, ds:data, es:extra
start:
mov ax,data
mov ds,ax
mov ax,extra
mov es,ax
mov di,ax
lea si, str1
lea di, str2
mov cx,06h
cld
repe cmpsb
jnz notequal
lea dx,str3
mov ah,09
int 21h
jmp terminate
notequal:
lea dx, str4
mov ah,09
int 21h
terminate:
mov ah,4ch
int 21h
code ends
end start
```

OUTPUT :-



```
DOSBox 0.74, Cpu speed: 3000 cycles, Frameskip 0, Program: DEBUG
Cross-reference [NUL.CRF]:

51736 + 464808 Bytes symbol space free

0 Warning Errors
0 Severe Errors

C:\HOME\STUDENTS\MANISH\8086>
C:\HOME\STUDENTS\MANISH\8086>link manish3b.obj

Microsoft (R) Segmented Executable Linker Version 5.31.009 Jul 13 1992
Copyright (C) Microsoft Corp 1984-1992. All rights reserved.

Run File [manish3b.exe]:
List File [nul.map]:
Libraries [.lib]:
Definitions File [nul.def]:
LINK : warning L4021: no stack segment

C:\HOME\STUDENTS\MANISH\8086>debug manish3b.exe
-g
The provided strings are Equal
Program terminated normally
-
```